

Quand il y a des clients
riches dans l'Air

Plan

- Qui parle?
- Voyage au monde des RIA
- Flex in a nutshell



Qui parle?

Plan

- Qui parle?
 - Général
 - Etudes
 - Expérience
- Voyage au monde des RIA
- Flex in a nutshell

Qui parle?

- Camille Roux
- 23 ans
- Ingénieur étude et conception chez bebook™
- contact@camilleroux.com

Etudes

- Polytech'Nice-Sophia



- Filière : Architecture logicielle
- Options : CLAW, Web sémantique, BD avancées, Crypto/Sécurité, algo. avancée
- Promotion 2008

Expérience

- + 1 an de Flex/Air
- Utilisation avancée
- Dialogue fréquent avec des professionnels et experts Flex
- Participation à des événements dédiés
- Veille quotidienne





Voyage au monde des RIA

Plan

- Qui parle?
- Voyage au monde des RIA
 - Un peu d'histoire
 - Définition et classification des RIA
 - Les technologies RIA
 - Conclusion
- Flex in a nutshell

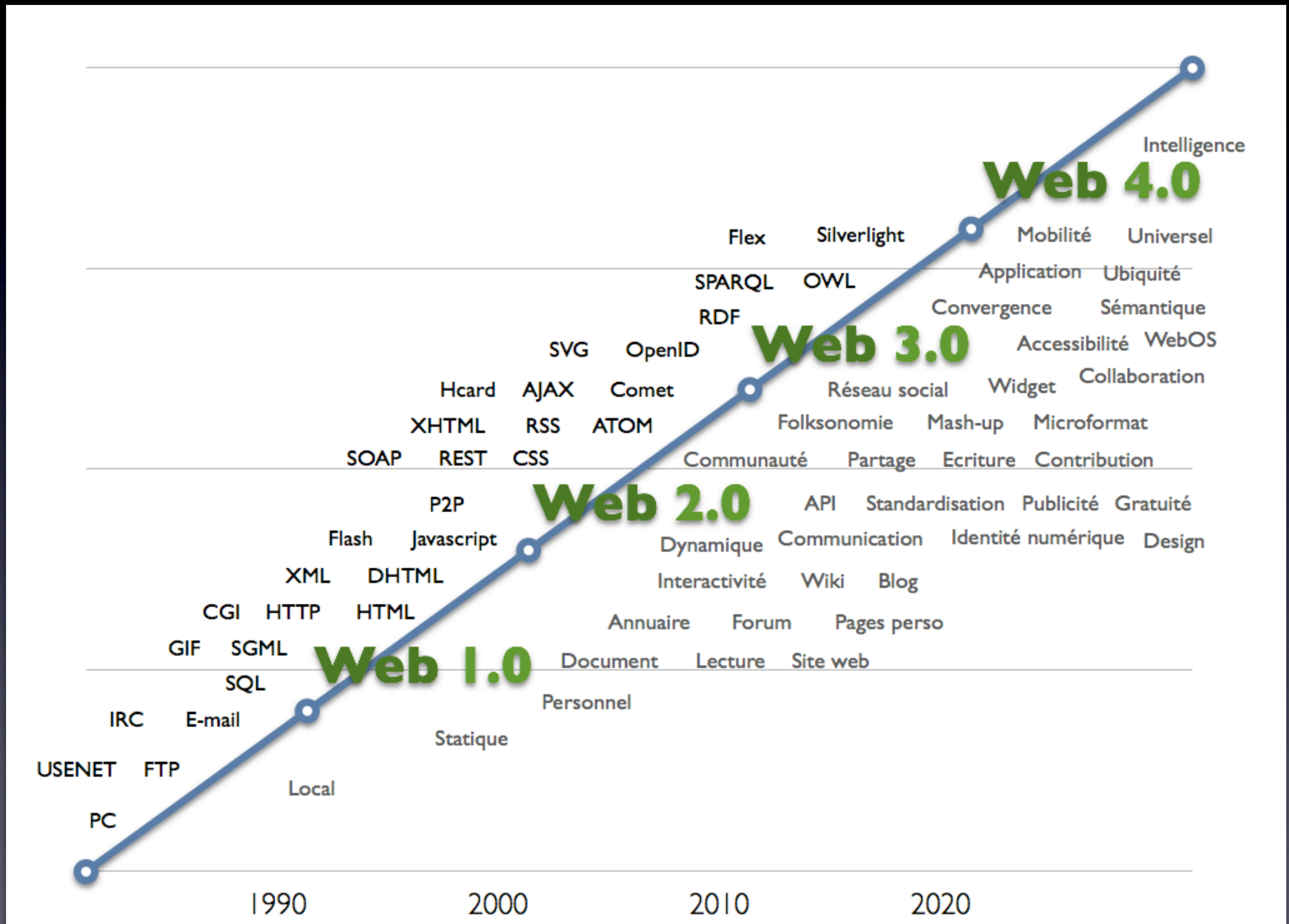


Un peu d'histoire ...

Evolution des Desktops

- I. 1945 : Batch System 0D
- II. 1955 : Interface orientée ligne 1D
- III. 1965 : Plein écran 2D
- IV. 1980 : Interface utilisateur graphique 2.5D
- V. 1995 : Nouvelle génération +3D

Evolution du web



Desktop

Web



RDA

RIA

Rich
Internet Application
(embarqué dans le
navigateur)

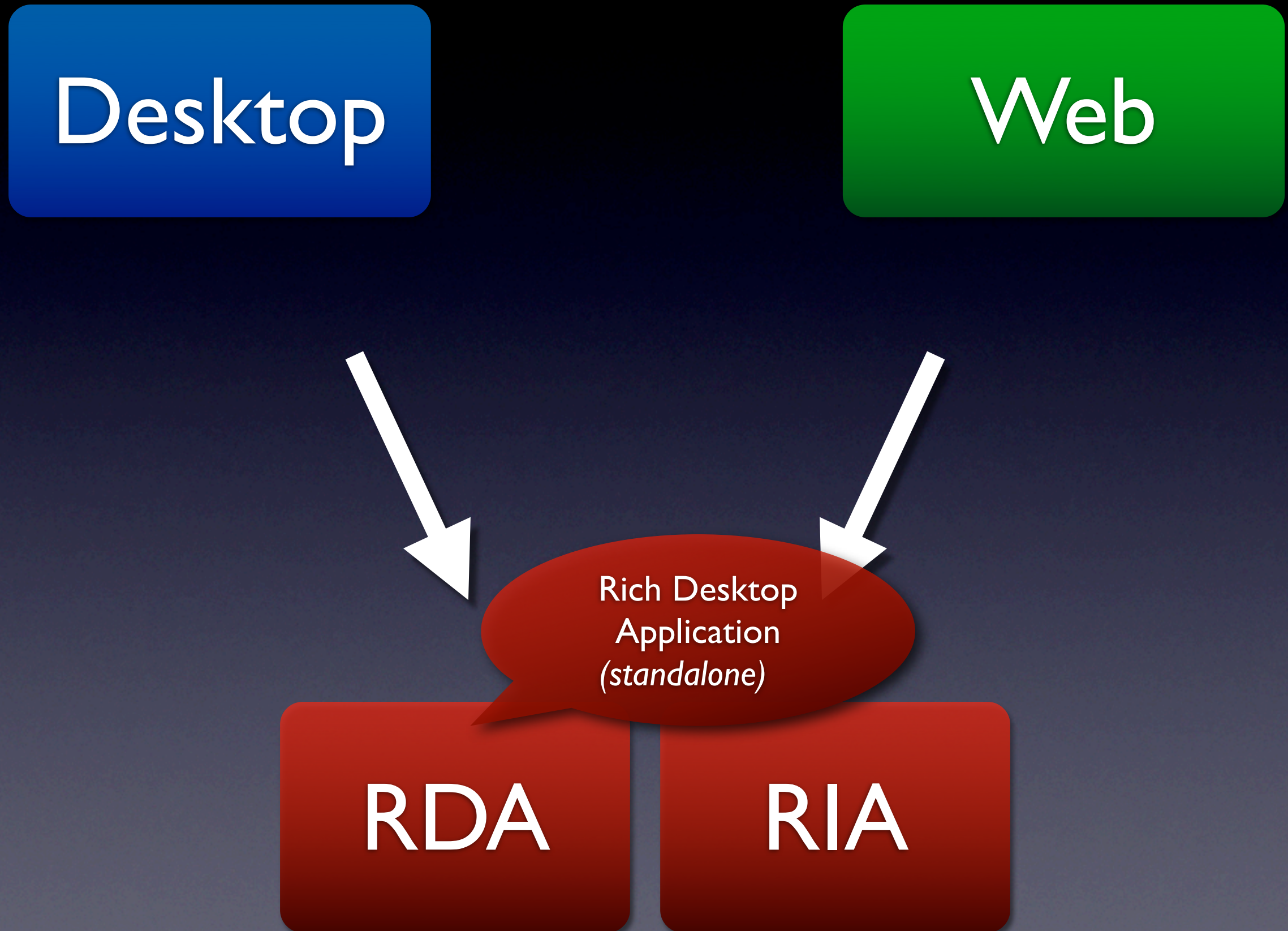
Desktop

Web

Rich Desktop
Application
(standalone)

RDA

RIA



Desktop

- ✓ Bonne exploitation des ressources
- ✓ Déconnecté
- ✓ Confidentialité des données
- ✓ Continuité du contexte
- ✓ Gestion/affichage possible de grandes quantités de données



RDA

Web

- ✓ Pas d'installation/update
- ✓ Portable
- ✓ Fortement connecté
- ✓ Traçage de l'utilisateur possible
- ✓ Pas de piratage de licence



RIA

Pas de serveur

Application
Desktop

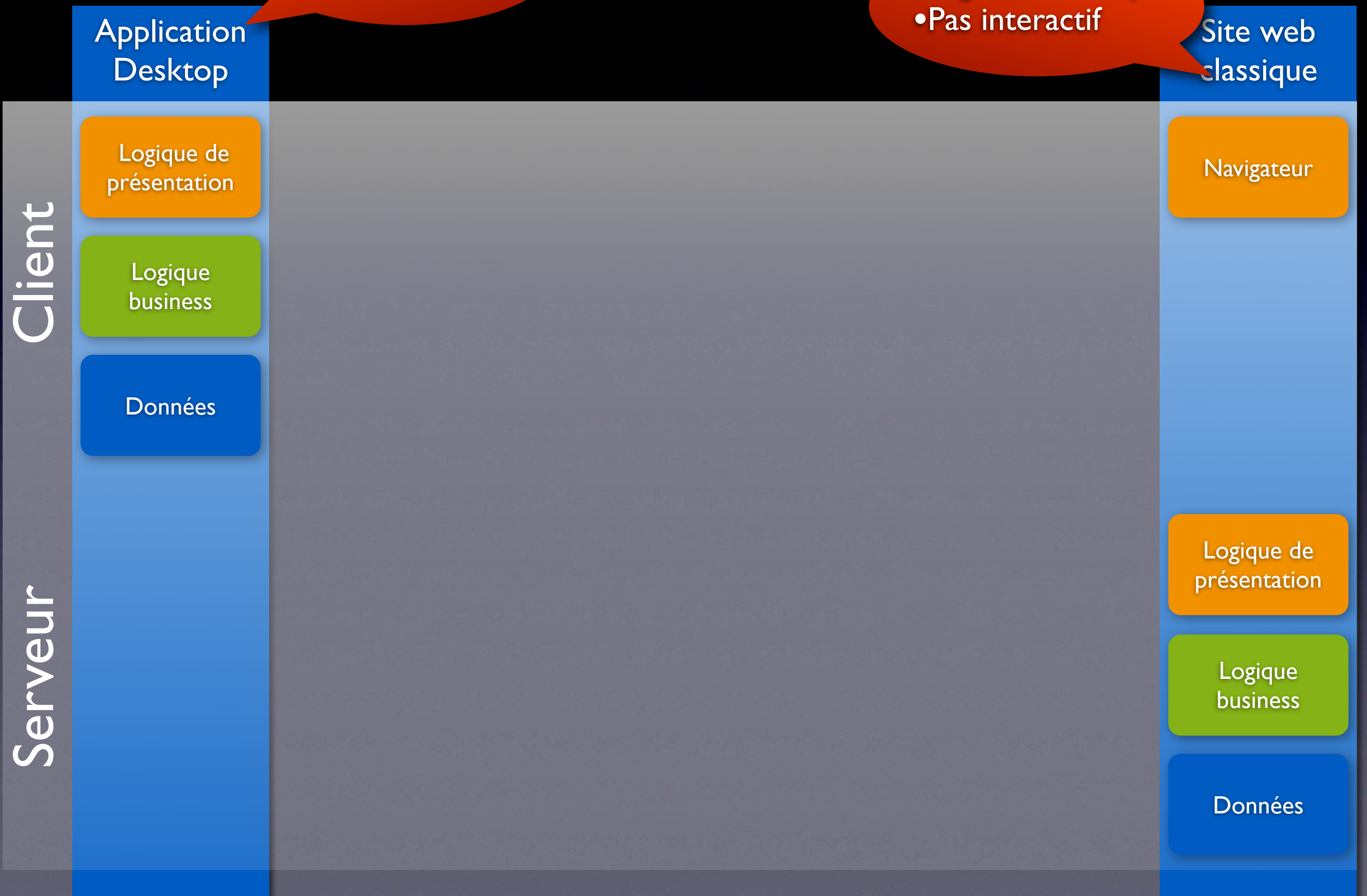
Logique de
présentation

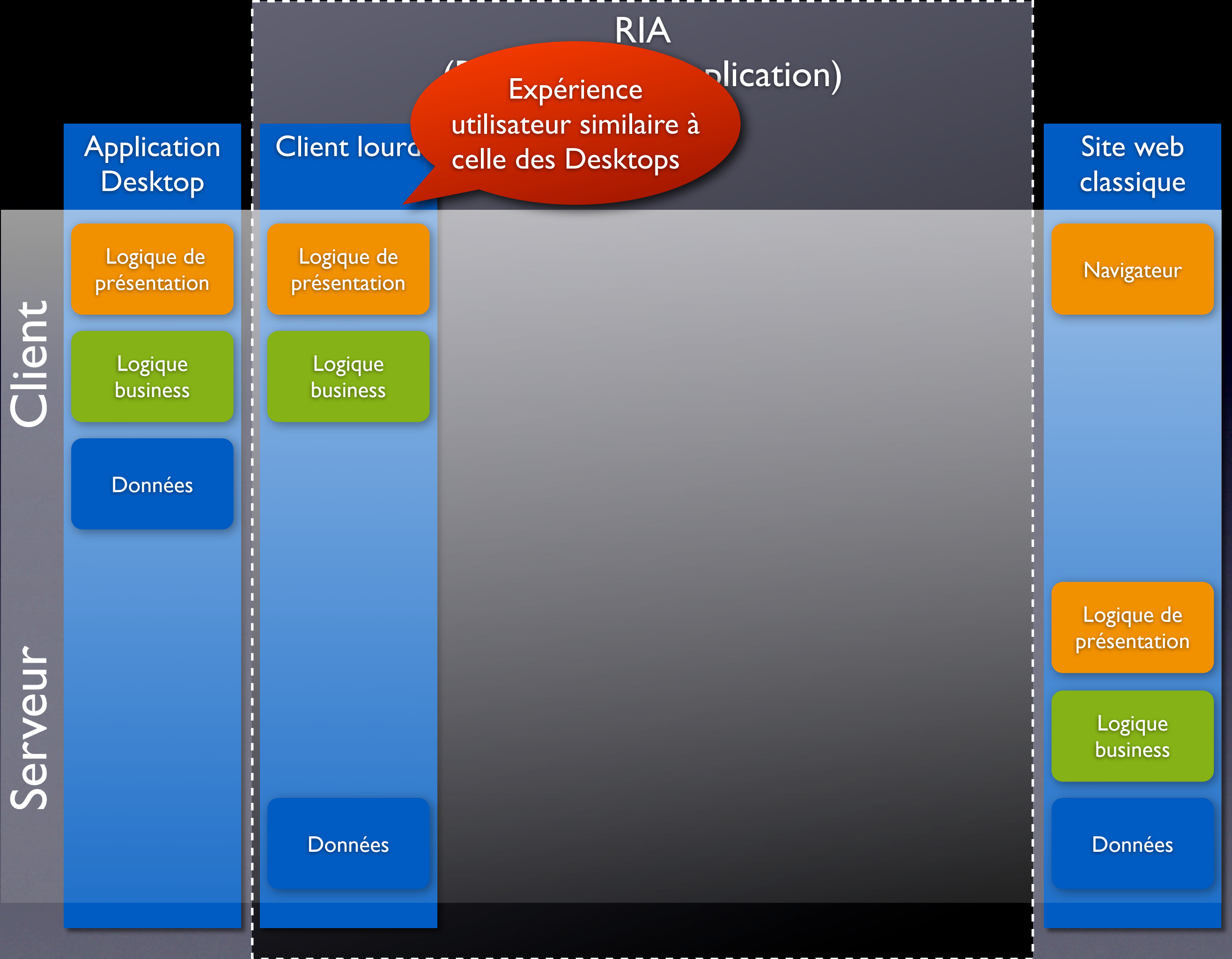
Logique
business

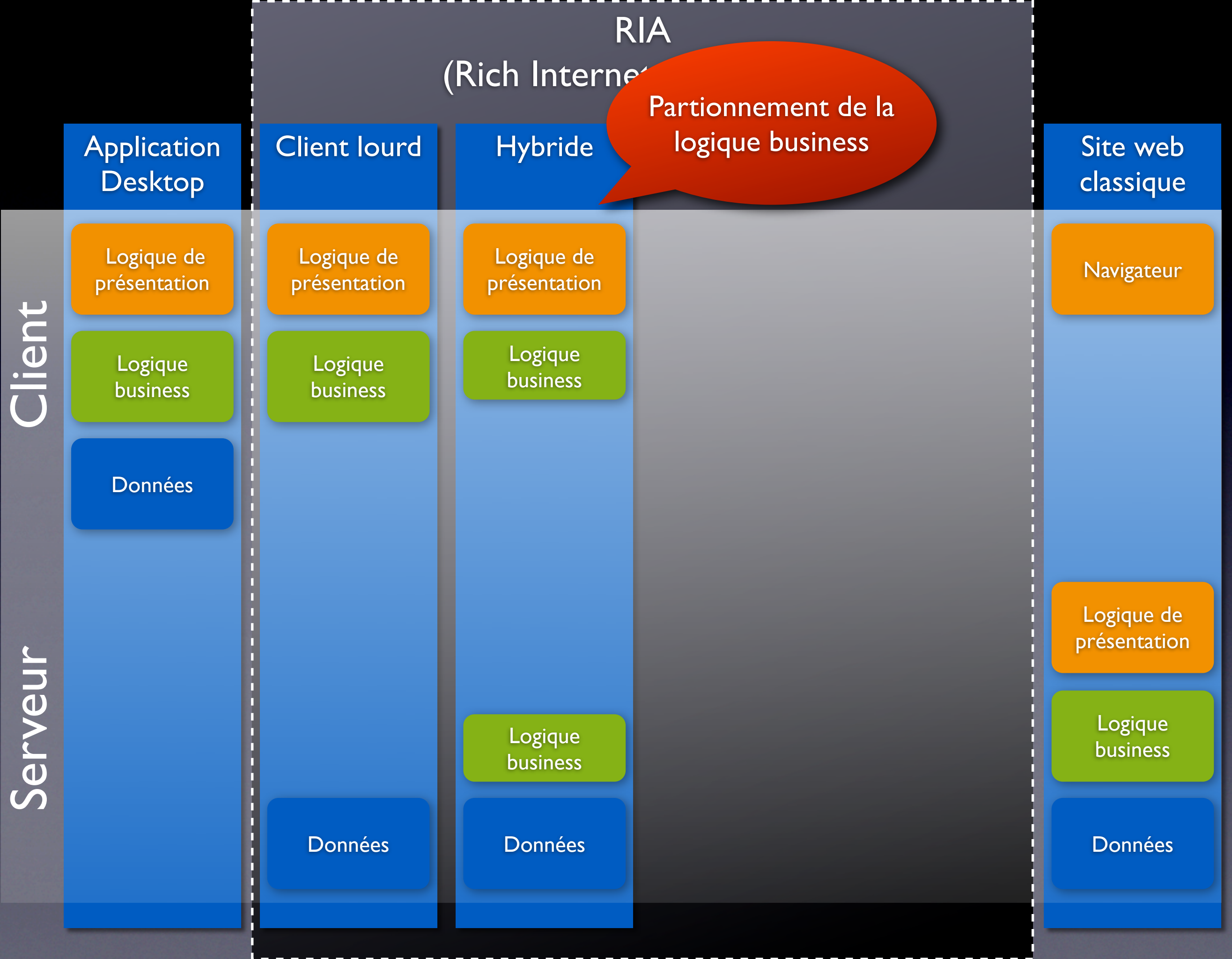
Données

Client

Serveur







RIA (Rich Internet Application)

Partionnement de la
logique de présentation

Client

Serveur

Application
Desktop

Logique de
présentation

Logique
business

Données

Client lourd

Logique de
présentation

Logique
business

Données

Hybride

Logique de
présentation

Logique
business

Logique
business

Données

Hybride

Logique de
présentation

Logique de
présentation

Logique
business

Données

Le web
classique

Navigateur

Logique de
présentation

Logique
business

Données

Client

Serveur

Application
Desktop

Logique de
présentation

Logique
business

Données

Client lourd

Logique de
présentation

Logique
business

Données

Hybride

Logique de
présentation

Logique
business

Logique
business

Données

(Rich In

Seul le moteur de
présentation est coté
client

RIA

Logique de
présentation

Logique de
présentation

Logique
business

Données

Client léger

Moteur de
présentation

Logique de
présentation

Logique
business

Données

Site web
classique

Navigateur

Logique de
présentation

Logique
business

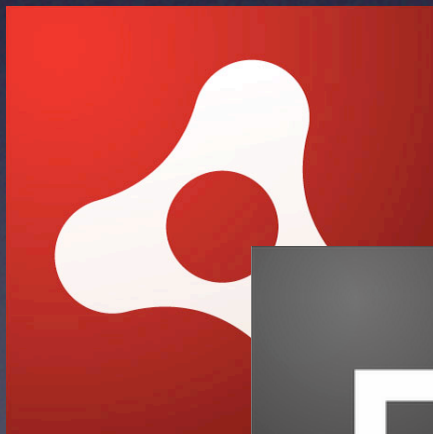
Données



`<xul/>`



Les technologies RIA



Du client léger au client lourd :

Les technologies mises en jeu





Nom : **Silverlight**

Editeur : **Microsoft**

Date de création : **avril 2007**

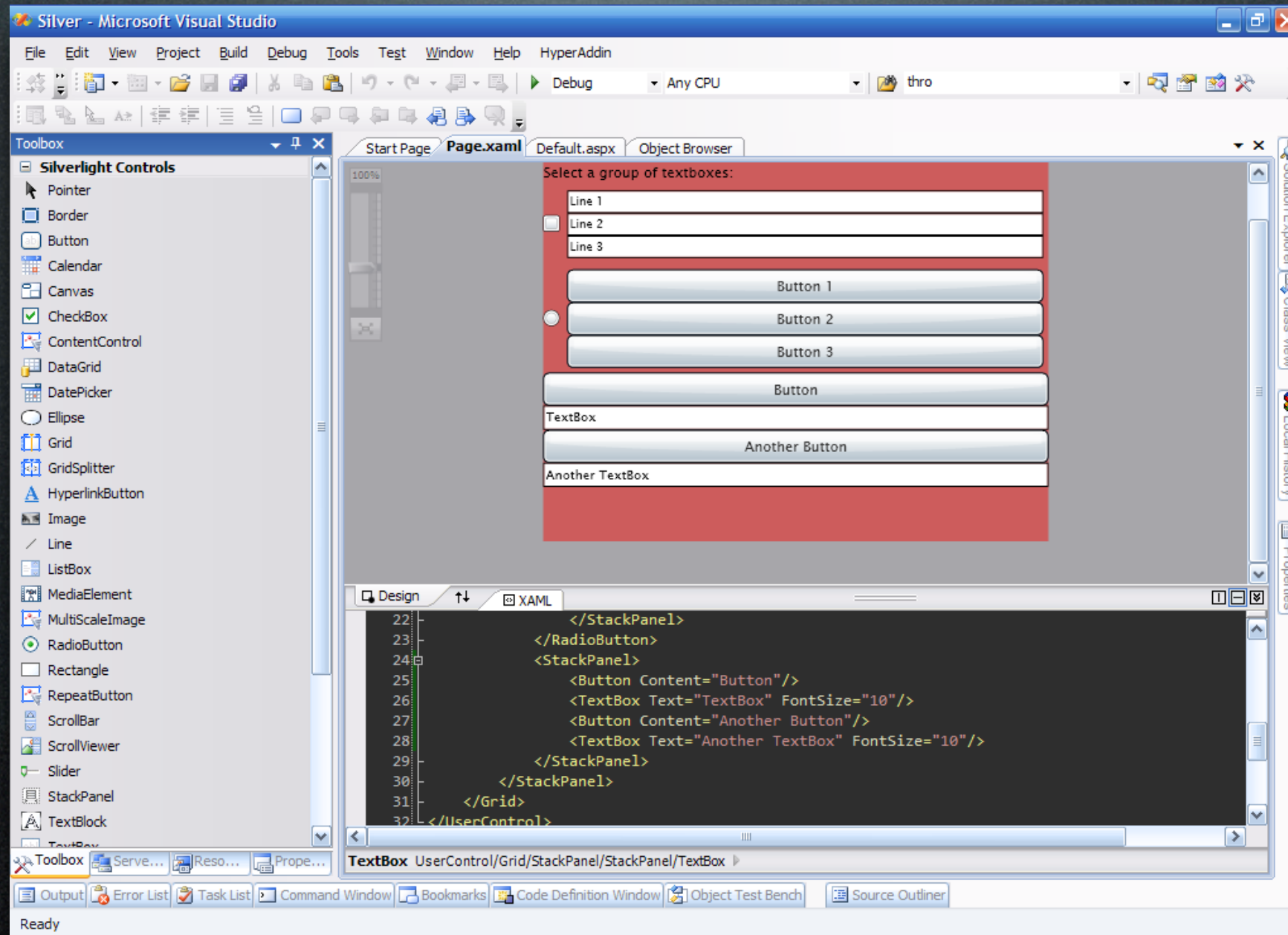
Licence : **Propriétaire**

Langages : **XAML / .net**

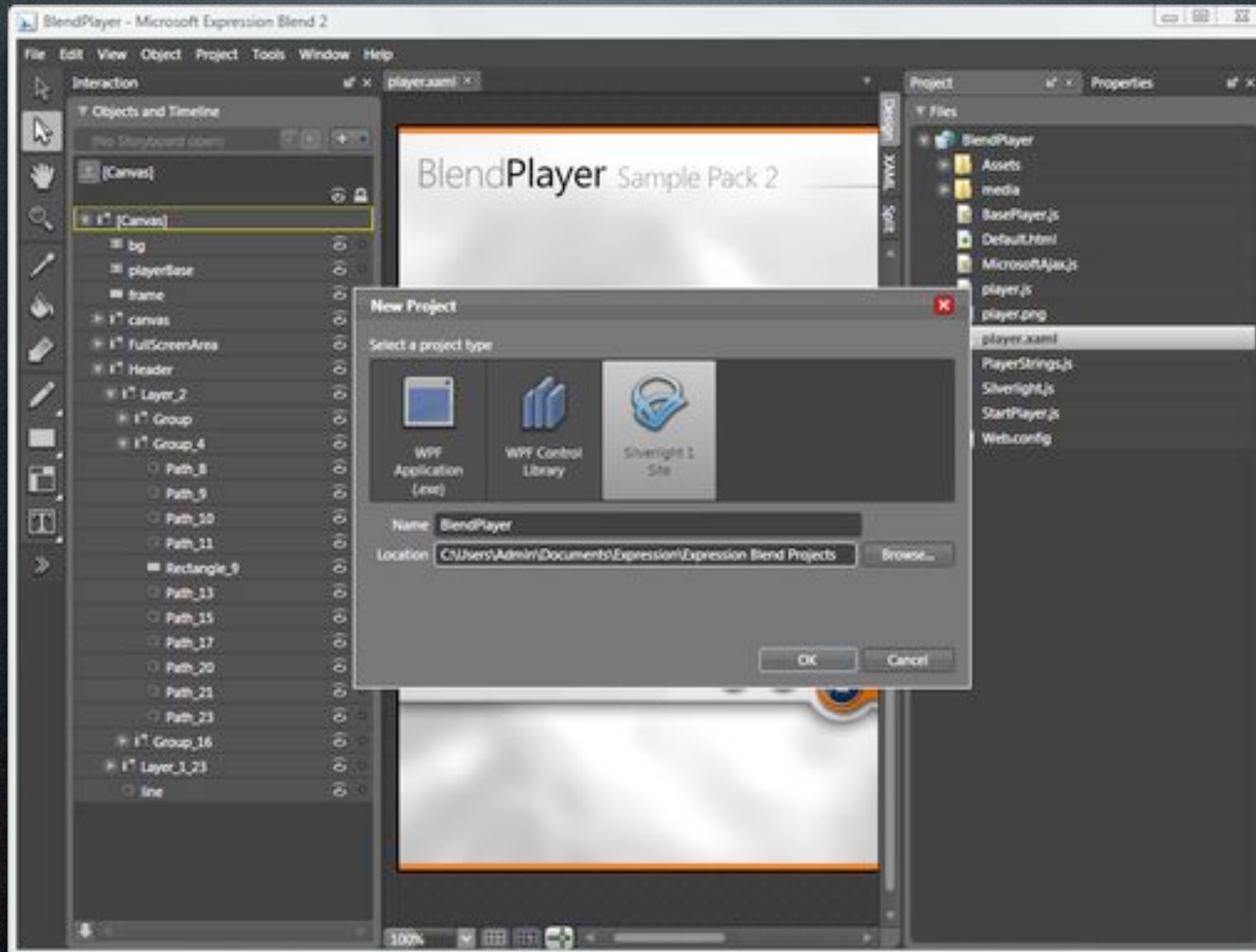
Ide : **Visual Studio +
Expression Blend**

Signes particuliers :

- ▶ **Non compatible Linux**
 - ▶ **Moonlight**
- ▶ **Non compatible Opera**
- ▶ **Version mobile en 2009**



MS Visual Studio



MS Expression Blend



Microsoft®
Silverlight™

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DESIGNER? DEVELOPER? START MAKING SILVERLIGHT EXPERIENCES TODAY.

[SUBMIT](#) +

Filters

Category

Geography

Sort By: Most viewed

☐ Date added
 ☐ Average rating
 ☒ Most viewed

Telerik Silverlight Controls
 RadControls for Silverlight 2 - a comprehensive suite of 22 controls bringing style and interactivity to any web application.

- Common codebase and shared API with RadControls for WPF
- Great performance and smart use of UI and data virtualization
- Full support for Expression Blend
- Full interoperability with ASP.NET AJAX
- Ready to use themes

Coming soon: RadGridView, RadDocking

[See demo](#)

267 Applications
45 Countries/Regions
[View Map](#)

1 2 3 4 5 6



Microsoft Dynamics CRM 4.0

Created By: [Microsoft](#)

Microsoft Dynamics Italy introduces Microsoft Dynamics CRM 4.0 using Silverlight.

★★★★☆ [View](#)



Silverlight Weather Widget

Created By: [Rik Rablson](#)

Returns 5 day weather forecast directly from The Weather Channel given a valid 5-digit US Zip Code. Uses Silverlight 1.0, ASP.NET AJAX, LINQ-to-XML, and most of the new C# 3.5 goodness!

☆☆☆☆☆ [View](#)



BMW TV Explorer

Created By: [BMW AG](#)

BMW innovates the user experience of interacting with the video file-archive of BMW TV with an emotional impact. I-D Media developed a highly explorative application with features like HD video streaming and a 3-D visualization of a high-way drive.

☆☆☆☆☆ [View](#)



Pilgrim

Created By: [Pilgrim](#)

Pilgrim is one of the leading jewelry manufacturers in Scandinavia, and now their website runs on Silverlight.

★★★★☆ [View](#)



Windows Server 2008 The Server Unleashed

Created By: [Microsoft](#)

Meet Windows Server 2008. The server unleashed. What happens when you take a world-class enterprise server, add innovations that increase uptime, defend against intrusion, and automate management? You get super-human reliability that unleashes the future of server technology.

★★★★★ [View](#)

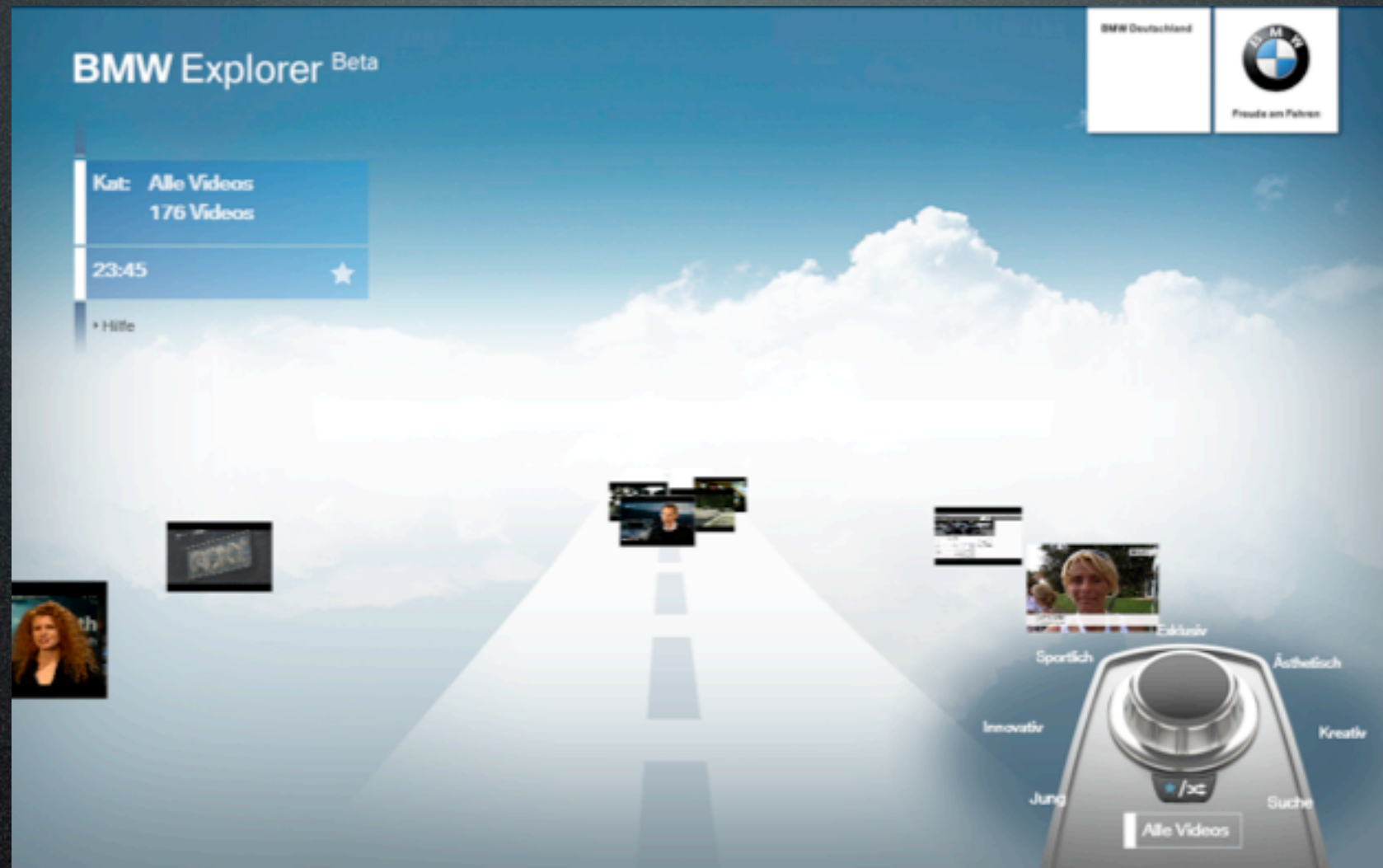


Happy Holidays

Created By: [ObjectSharp](#)

Wishing you a Happy Holidays and a Happy New Year, from all of us at ObjectSharp.

★★★★☆ [View](#)




Microsoft
Windows Server 2008 [Download Trial](#)

Search Microsoft.com for: [Go](#)

Case Studies

See what innovative companies can do with servers offering superhuman reliability.






[Play Video](#) [Read Story](#)



00:00:12

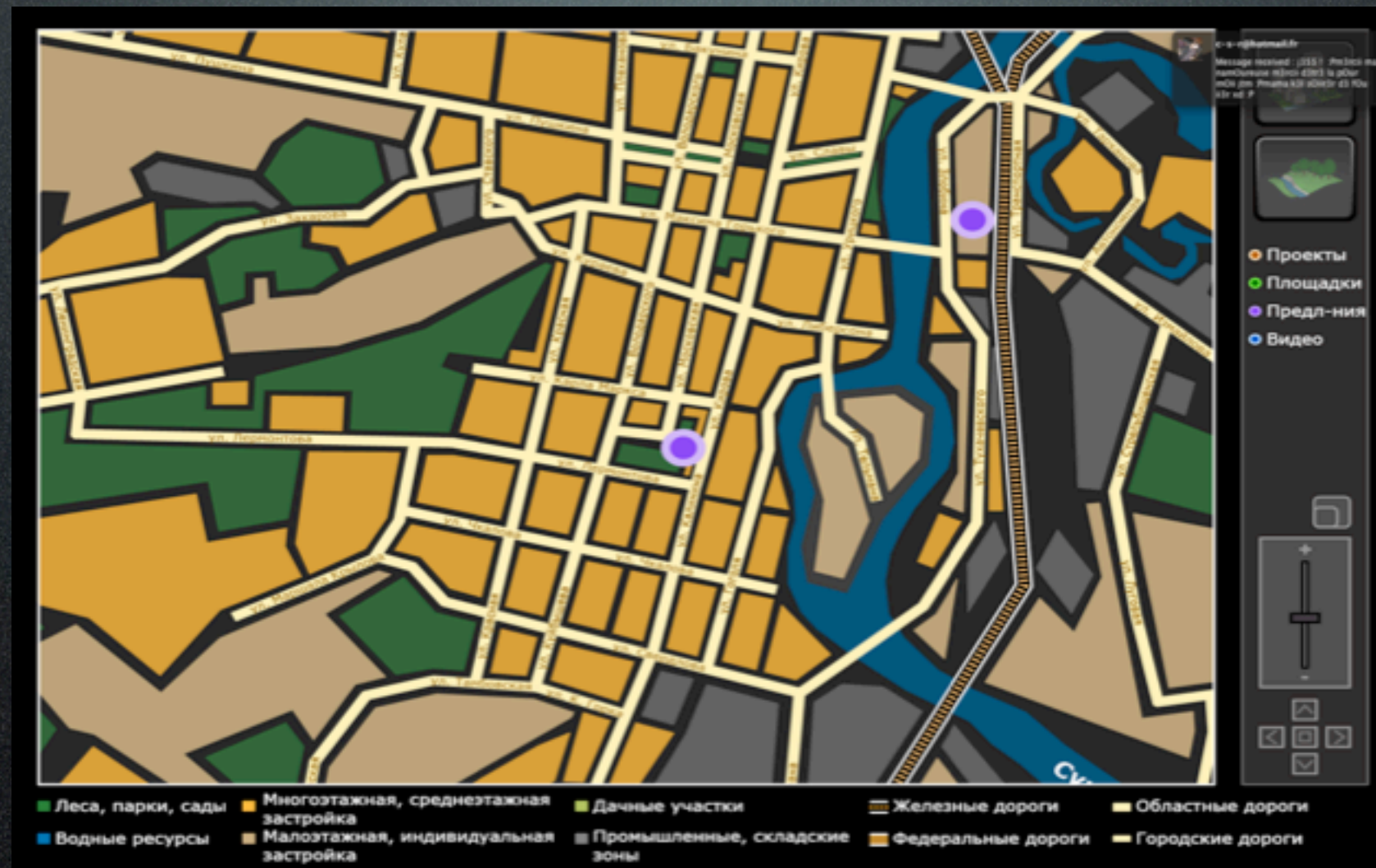
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[Read our entire case study](#) [Back](#)


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University of Delaware
Dartmouth

Starbucks

Continental Airlines
Continental

Dell

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Nom : **Flex**

Editeur : **Adobe**

Date de création : **mars 2004**

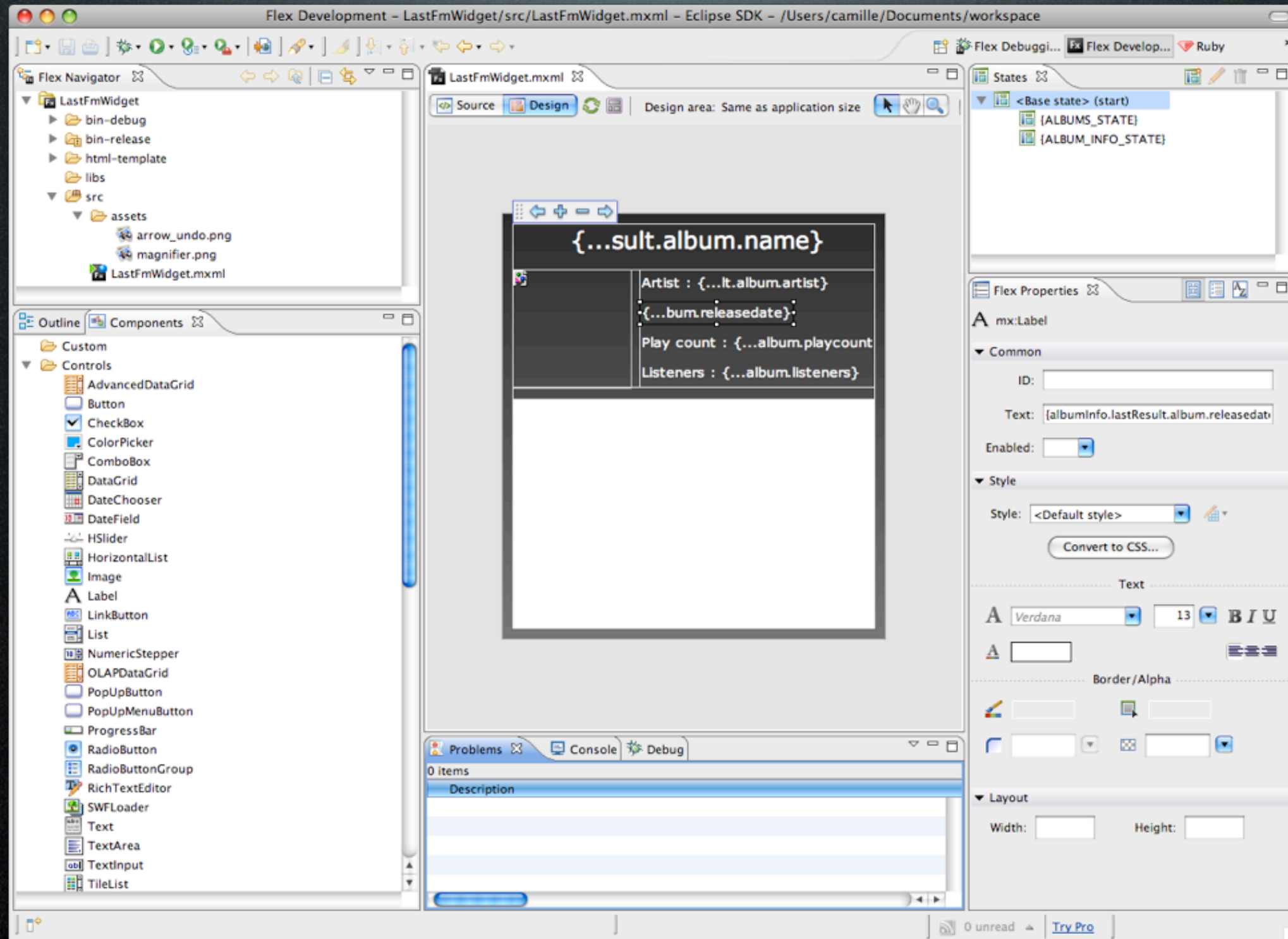
Licence : **Open source**
/Propriétaire

Langages : **MXML**
/ActionScript 3

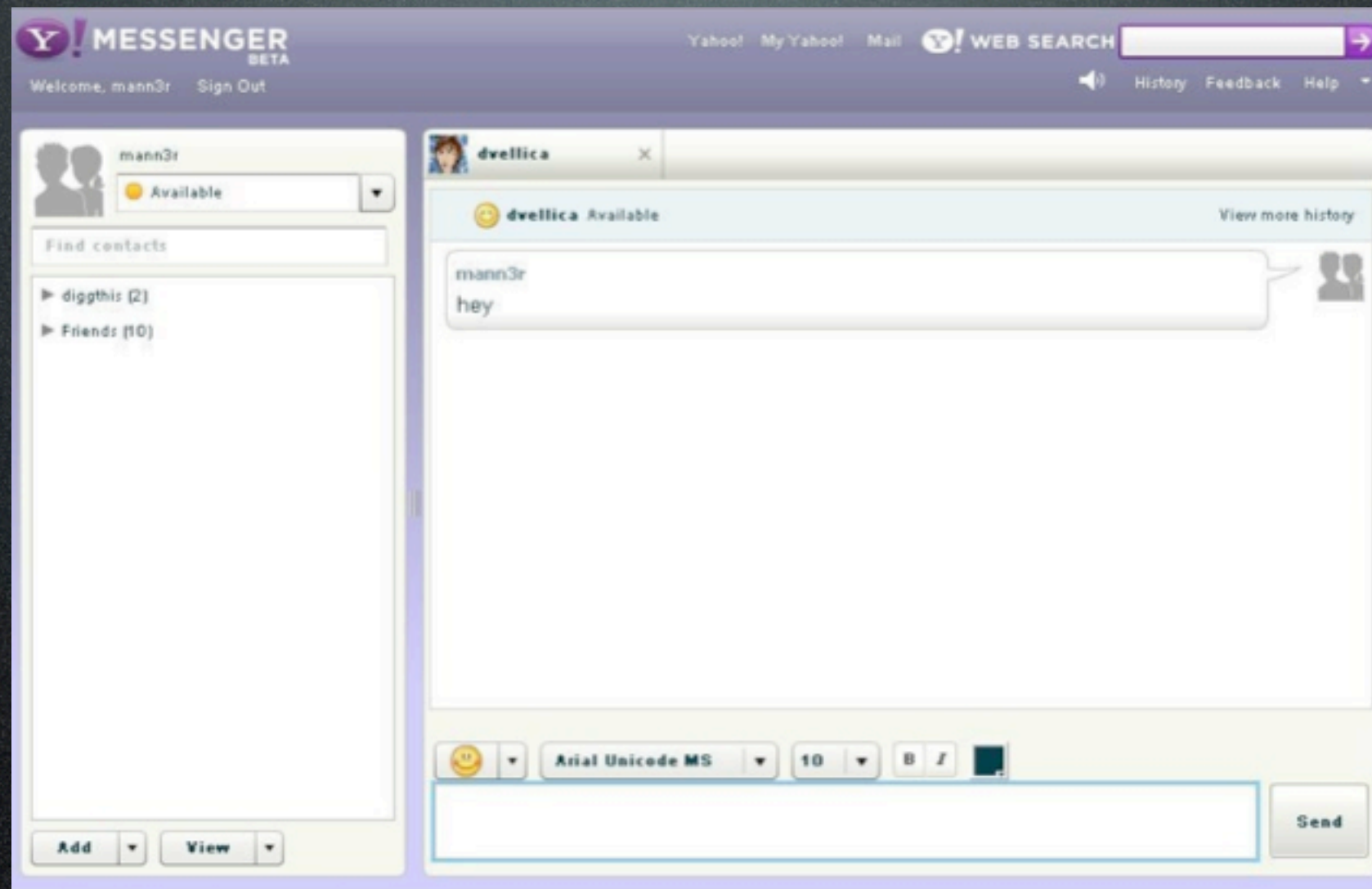
Ide : **Adobe Flex Builder**
(plugin Eclipse)

Signes particuliers :

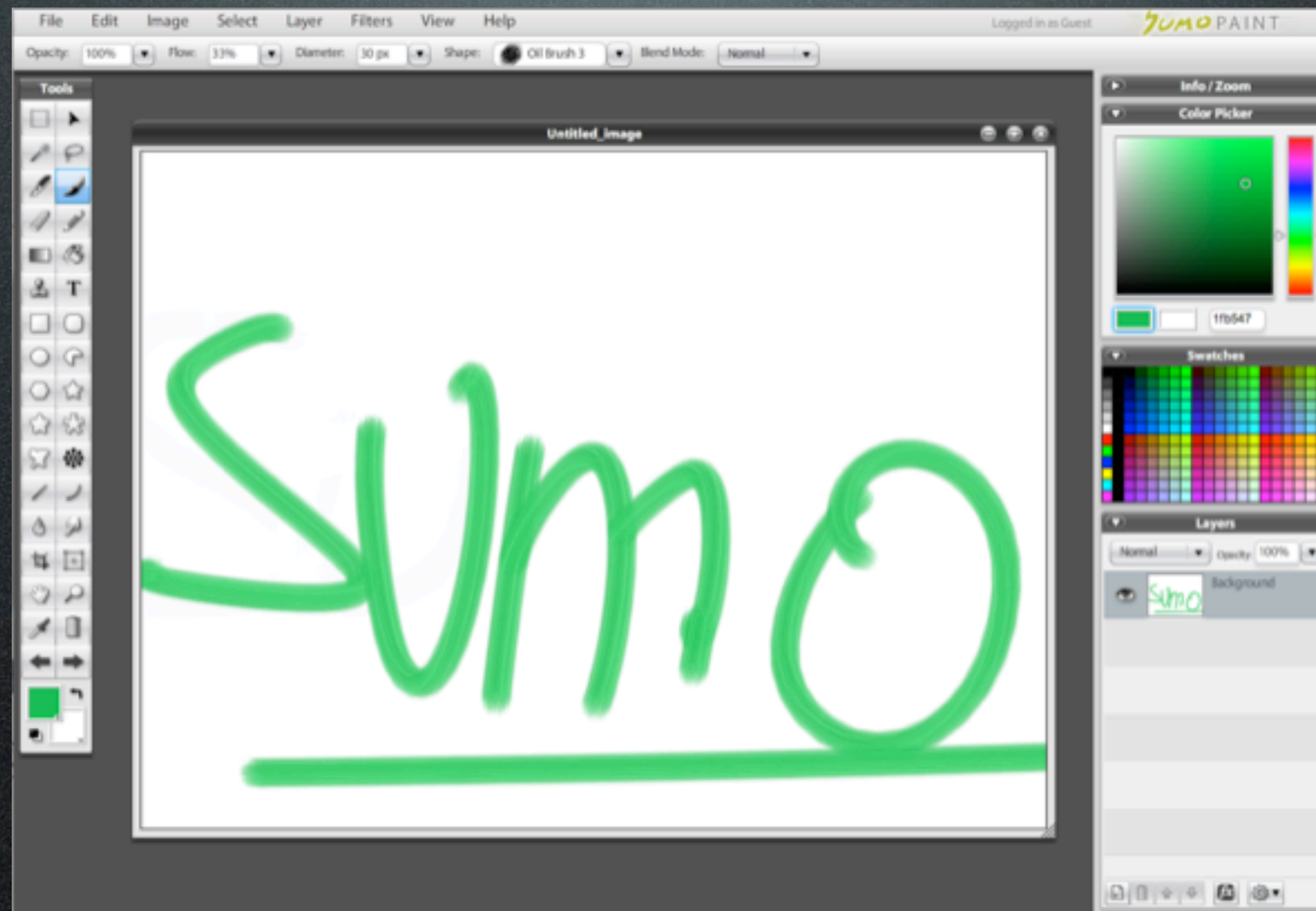
- ▶ **Repose sur Flash**
- ▶ **Flex 4 en 2009**
- ▶ **Adobe Air (Desktop)**



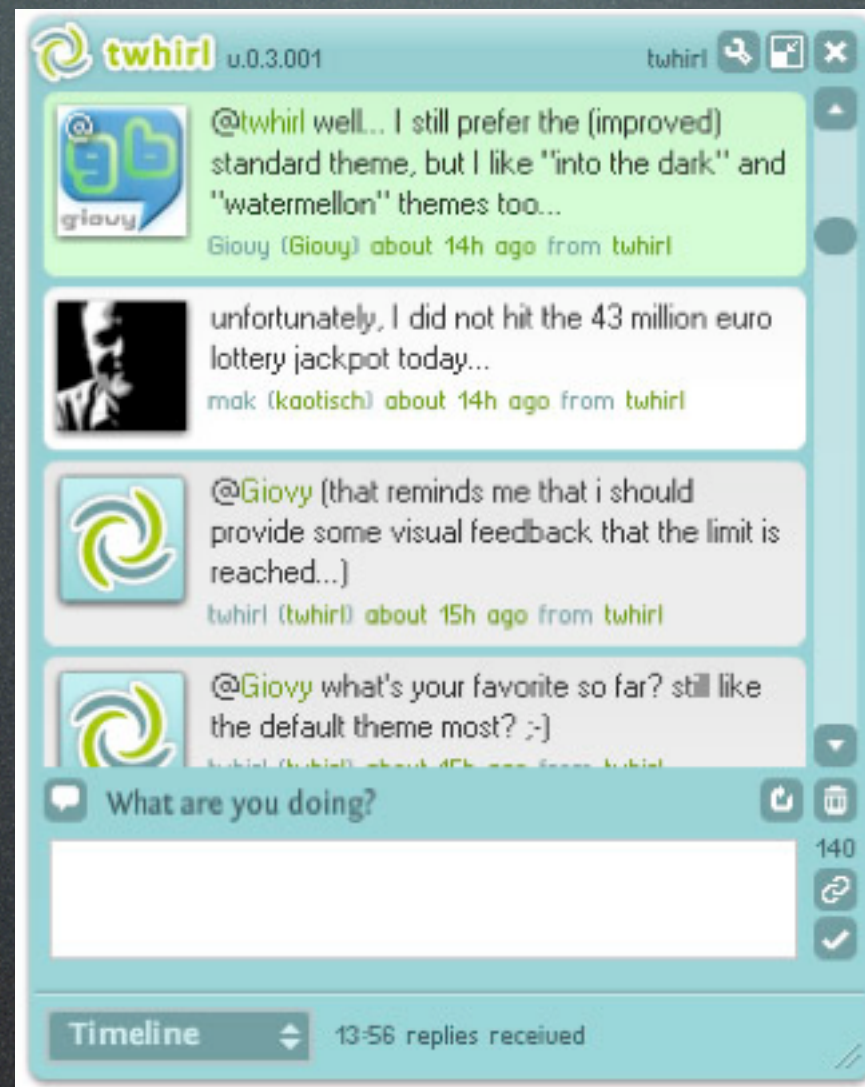
Adobe Flex Builder













<xul/> Nom : **XUL**

Editeur : **Fondation Mozilla**

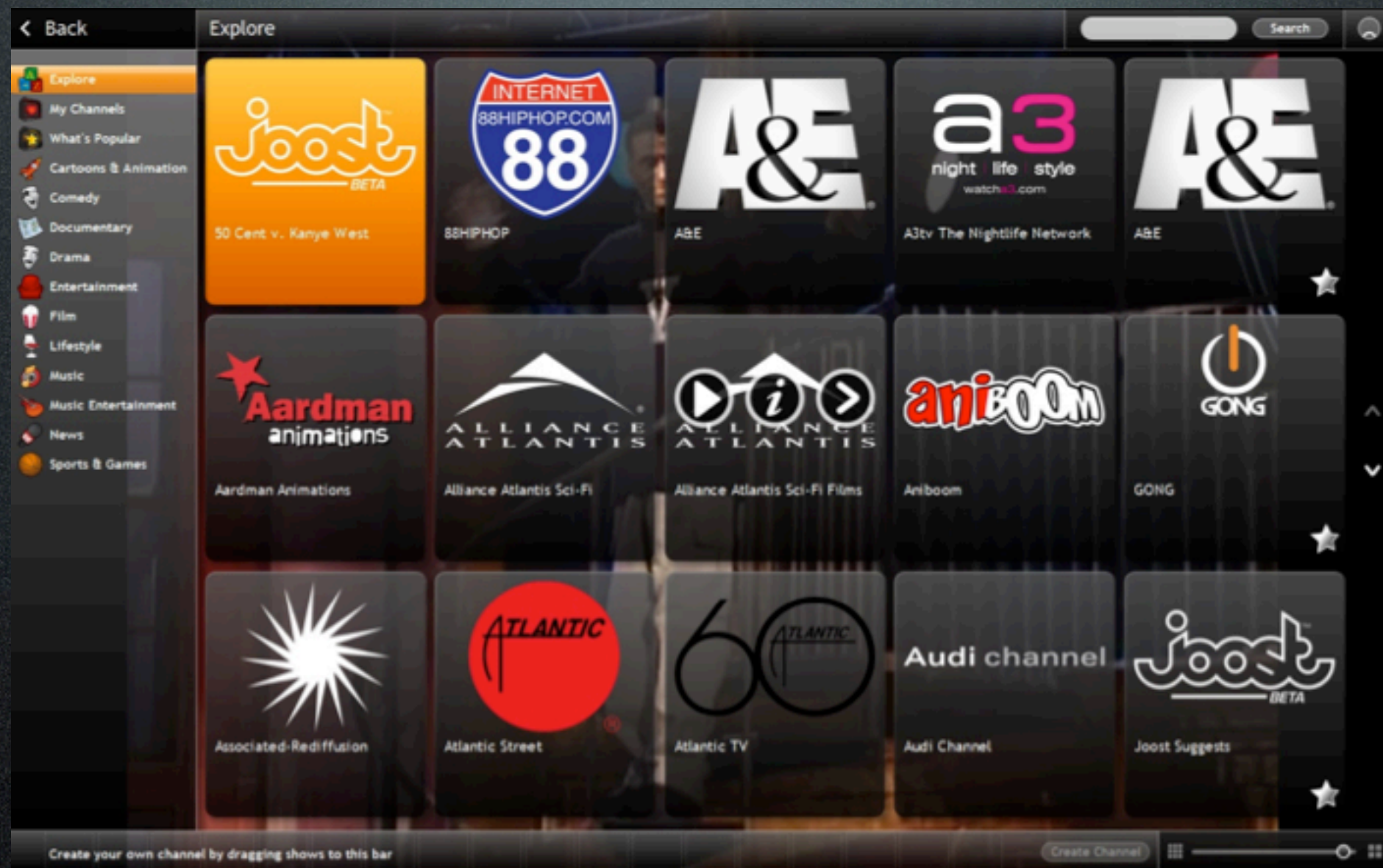
Licence : **Format ouvert**

Langages : **XUL/HTML
/CSS/DOM/Javascript
/XML**

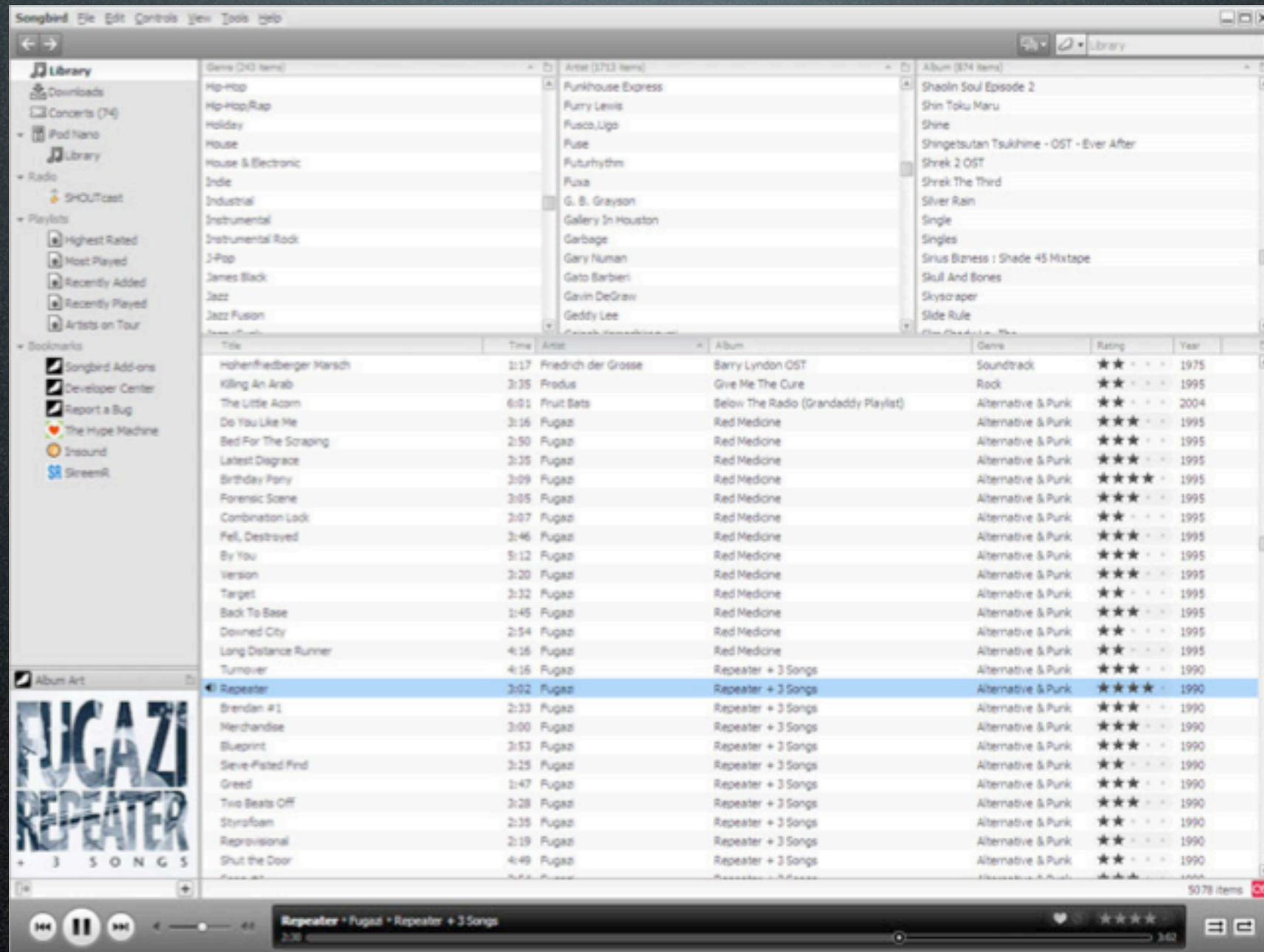
Ide : **Plusieurs IDE
disponibles**

Signes particuliers :

► **Prononcer "zoul"**



Showcase



Showcase



Nom : **JavaFX**

Editeur : **Sun Microsystems**

Date de création : **mai 2007**

Licence : **Propriétaire**

Langages : **Java**
/JavaFX script

Ide : **Netbeans + plugin**

Signes particuliers :

- ▶ Langage de script, wrap de Swing et Java 2D/3D
- ▶ JavaFX 1.0 sorti le 4 dec 2008

Java Swing

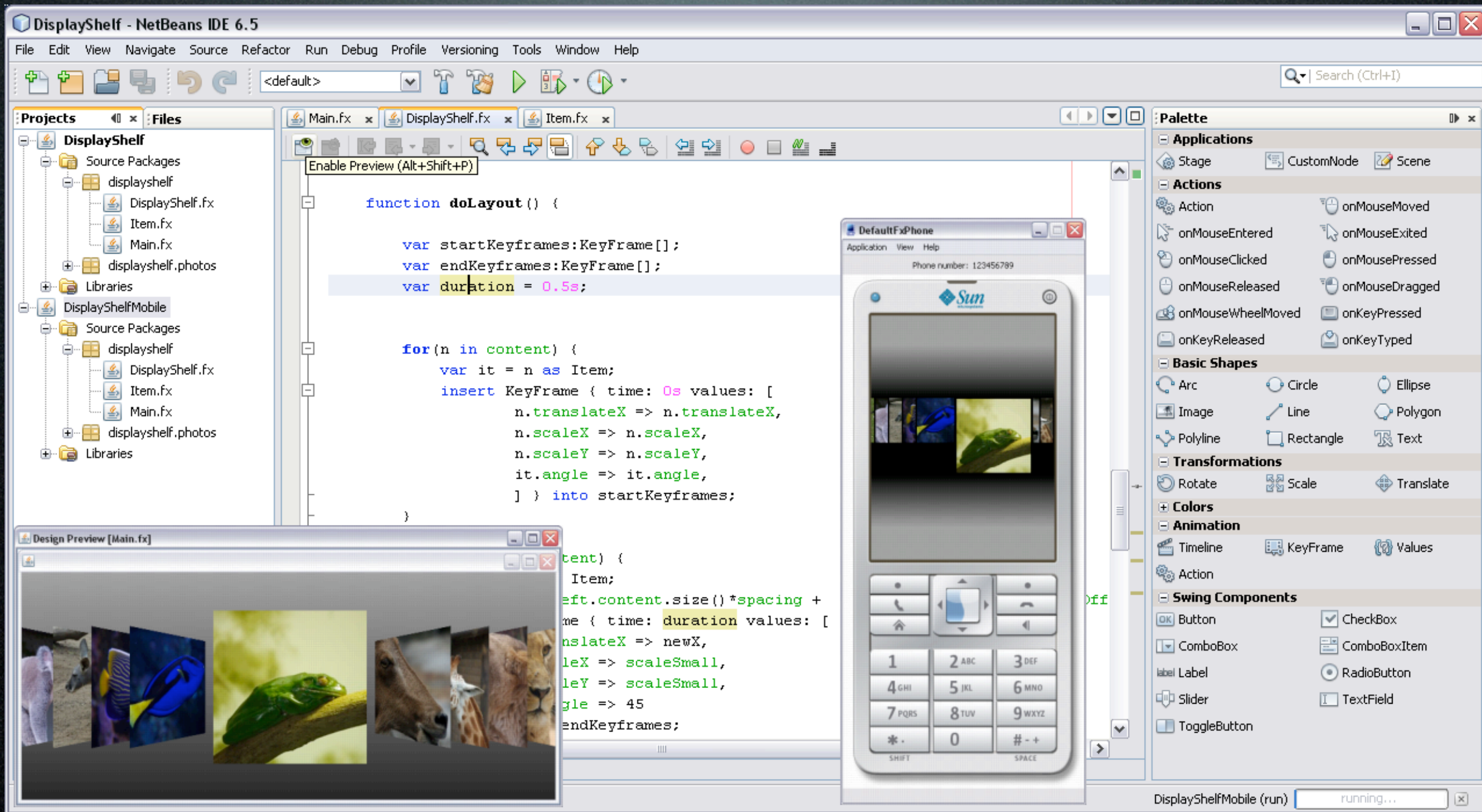
```
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.SwingUtilities;

public class FrameApplication {

    public static void main(String[] args) {
        SwingUtilities.invokeLater(new Runnable() {
            public void run() {
                JFrame win = new
                JFrame("My Java Application");
                win.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                win.setSize(500, 300);
                JLabel label = new JLabel("Hello World!");
                win.add(label);
                win.setVisible(true);
            }
        });
    }
}
```

JavaFX Script

```
import javafx.ui.*;
Frame {
    title: "My Java Application"
    width: 500
    height: 300
    content: Label {
        text: "Hello World!"
    }
    visible: true
}
```

Netbeans + plugin JavaFX

AJAX?



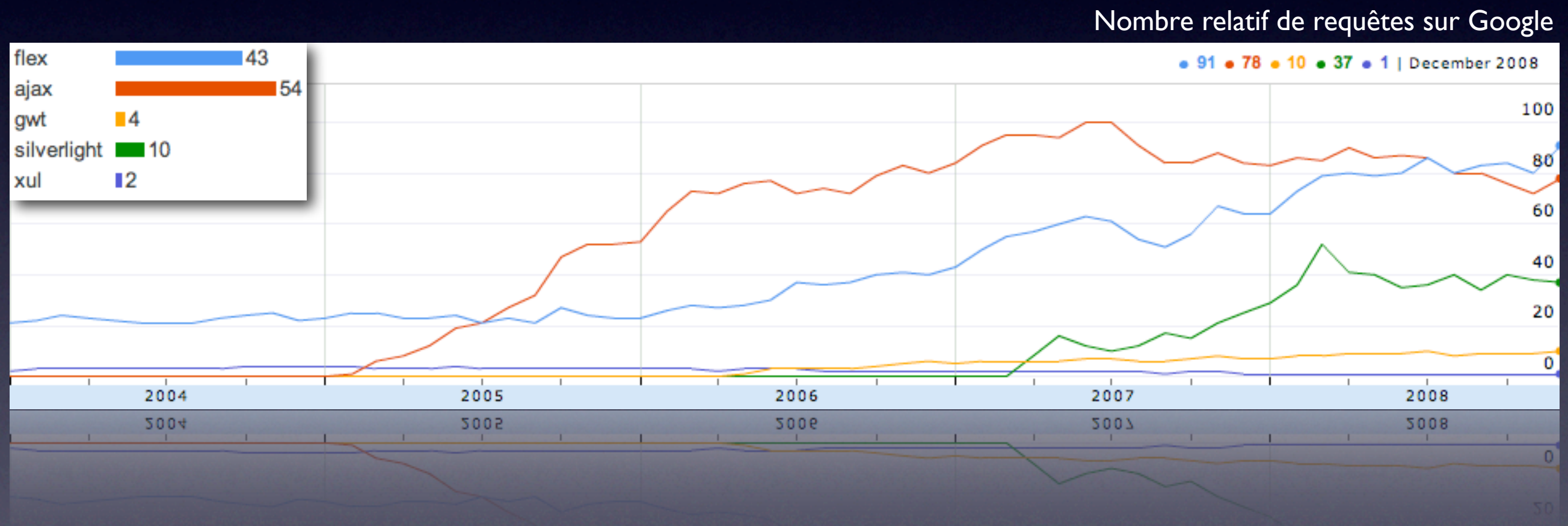
GWT?



Titanium?

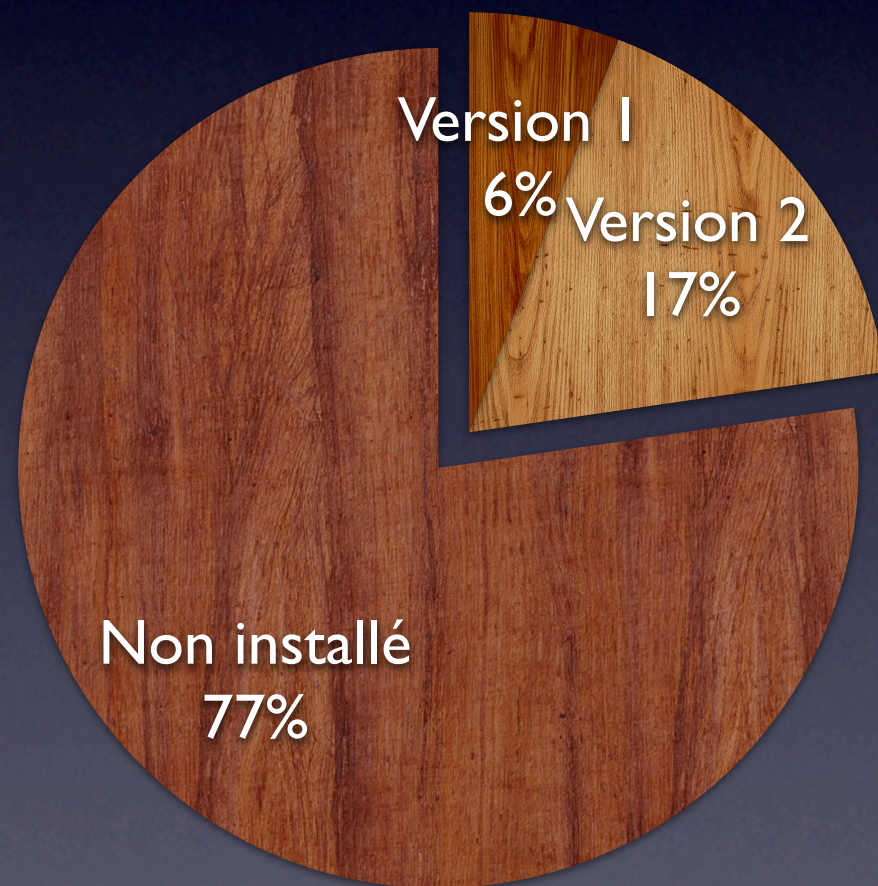


Popularité



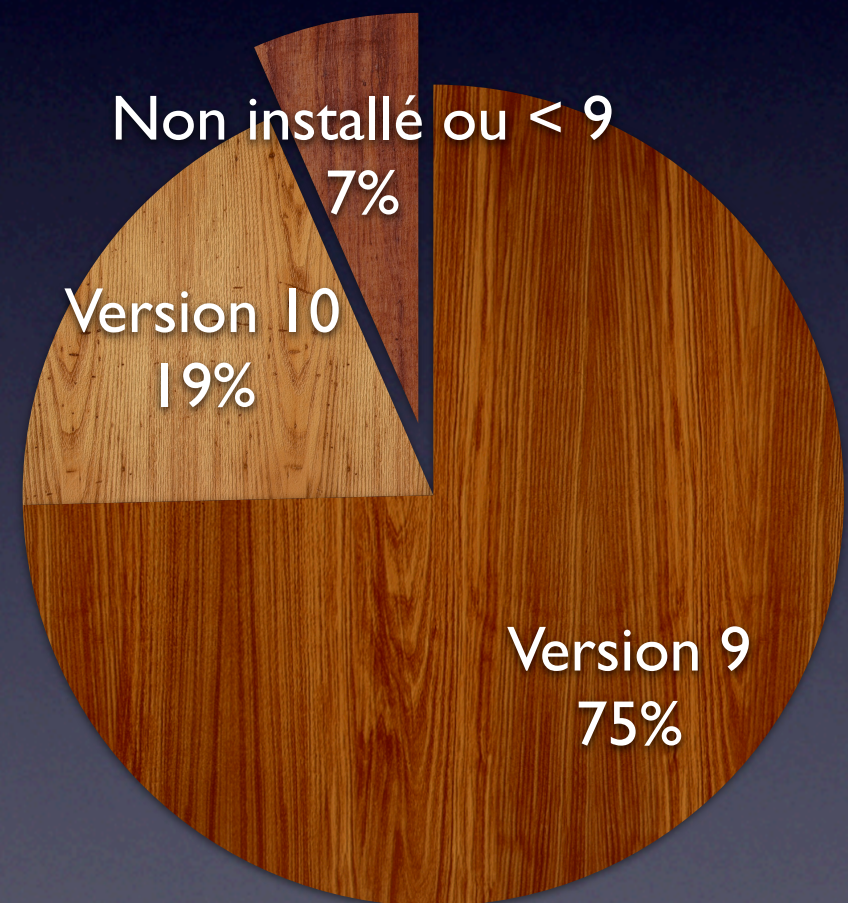
Pénétration du marché

Microsoft Silverlight



- Version 1
- Version 2
- Non installé

Adobe Flash Player



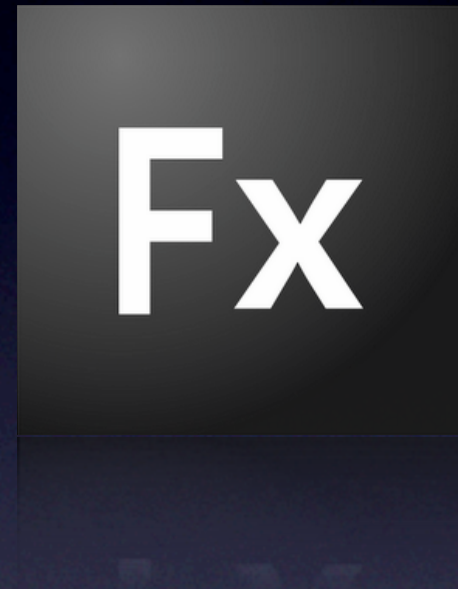
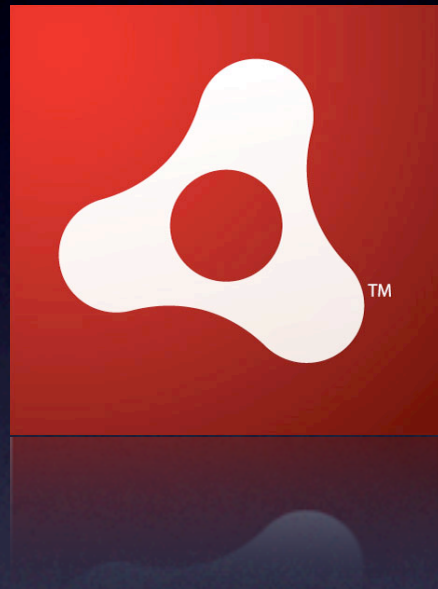
- Version 9
- Version 10
- Non installé ou < 9

Points communs

- Multi-plateformes (grâce à un player)
- 1 langage de description du UI + 1 langage de programmation
- Programmation orientée événement
- UI riches
- Connectés : REST, SOAP, AMF, ...
- ...

Critères de choix

- Type d'application
- Public visé
- Utilisations avancées désirées (3D, son, vidéo...)
- Performance / complexité de l'application
- Rendu graphique
- Communauté
- ...



Flex/Air in a nutshell

Plan

- Qui parle?
- Voyage au monde des RIA
- Flex in a nutshell
 - Qu'est-ce que Flex?
 - Les langages
 - Actionscript 3
 - MXML
 - Culture Flex
 - Retour sur expérience
 - Ressources

Qu'est-ce que Flex?

Un moyen de faire des **SWF**

C'est pour les **développeurs**

Cela permet de faire des **applications**

sur le **web** (Flex)

et sur **desktop** (AIR)

Historique

- Flex 1.0 : mars 2004 (Macromedia)
- Flex 1.5 : octobre 2004
- Flex 2.0 : juin 2006
- Flex 3.0 : février 2008
- Flex 4.0 ("Gumbo") : 2009

Les langages

MXML

- Description de l'interface
 - + logique business
 - + connexion à des webservices, REST, ...
- Basé sur XML
- Intégré avec l'AS : syntaxe `{ . . . }`

ActionScript 3.0

- Norme ECMAScript 4.0 (draft edition)
- Proche de Java et JavaScript
- Orienté objet
- Typé (mode strict par défaut)
- Pseudo-compilé
- Dynamique (*dynamic class*)
- Réflexif

“The power of the ActionScript language tools along with the hybrid type checking (mostly static for tool support in Flex Builder, but dynamic whenever it’s convenient) makes for a programming experience that I find much more straightforward and pleasing than Java.”

Bruce Eckel

Auteur de "Thinking in Java"

Runtime

- Langage pseudo-compilé (byte code)
- Compilation à la volée (Just In Time Compilation)
- Monothreadé
- Ramasse-miette

ActionScript 3

Variable

- `var variable:String;`
- `var variable:String = "Ma chaine";`

Constante

- `const CONSTANTE:String = "ma chaine";`

Quelques types de base

Types primitifs	Types complexes
Boolean	Object
int	Array
Null	Date
Number	Error
String	Function
uint	RegExp
void	XML
	XMLList

Traitement conditionnel

```
var entier:Number = 5;  
if (entier < 0)  
{  
    trace("< 0");  
}  
else if (entier == 0)  
{  
    trace("= 0");  
}  
else  
{  
    trace("> 0");  
}
```


Traitement conditionnel

```
var entier:String = "5";
switch(entier)
{
    case "5":
        trace("le nombre est 5");
        break;
    case "6":
        trace("le nombre est 6");
        break;
    default:
        trace("le nombre est différent de 5 et 6");
}
```


Boucles

```
for(var i:uint ; i<10 ; i++)  
{  
    trace(i);  
}
```


Boucles

```
var i:uint = 1;  
while(i<10)  
{  
    trace(i);  
    i++;  
}
```


Boucles

```
var i:uint=1  
do  
{  
    trace(i);  
    i++;  
}  
while(i<10);
```


Boucles

- `var tableau:Array = new Array("un","deux","trois");`
`for(var p:* in tableau) //itère sur les index`
`{`
`trace(p + " :: " + tableau[p]);`
`}`
- `for each (var p:* in tableau) //itère sur les valeurs`
`{`
`trace(p)`
`}`

Programmer avec classe

```
package com.camilleroux.flex
{
    import mx.control.Button;

    public class MicroOnde extends Device implements IMicroOnde
    {
        protected var temperature:Number;

        public function MicroOnde()
        {
        }
        public function start():void
        {
        }
    }
}
```


Programmer avec classe

importation de classes et interfaces

```
package co
{
    import mx.control.Button;

    public class MicroOnde extends Device implements IMicroOnde
    {
        protected var temperature:Number;

        public function MicroOnde()
        {
        }
        public function start():void
        {
        }
    }
}
```


Programmer avec classe

```
package internal : visible que  
{ dans son package  
import public : visible par tous
```

```
public class MicroOnde extends Device implements IMicroOnde  
{  
    protected var temperature:Number;  
  
    public function MicroOnde()  
    {  
    }  
    public function start():void  
    {  
    }  
}
```


Programmer avec classe

```
package com
{
    import mx
    public class MicroOnde extends Device implements IMicroOnde
    {
        protected var temperature:Number;


        public function MicroOnde()
        {
        }
        public function start():void
        {
        }
    }
}
```

+ final : ne peut être étendue
+ dynamic : possibilité de lui ajouter des attributs et méthodes au runtime

Programmer avec classe

```
package com.cam {
    import mx.*;
    public class MicroOnde implements IMicroOnde {
        protected var temperature:Number;

        public function MicroOnde()
        {
        }
        public function start():void
        {
        }
    }
}
```



- internal (par défaut)
- public
- protected
- private
- + static

Programmer avec classe

```
package com.camilleroux.flex
{
    import mx.control.Button;

    public class MicroOnde implements IMicroOnde
    {
        // internal (par défaut)
        // public
        // protected
        // private
        // + static

        public function start():void
        {
        }
    }
}
```


Interface

```
package com.camilleroux.flex
{
    public interface IMicroOnde
    {
        function start():void;
    }
}
```


Accesseurs

- `public function get maVariable():Type`
- `public function set
maVariable(value:Type):void`

MXML

Hello World



Du vrai XML

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200">
    <mx:Button label="Hello world"/>
  </mx:Panel>
</mx:Application>
```


Hello World

Base de tout
document MXML

```
<?xml version="1.0" encoding="utf-8"?>  
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">  
  <mx:Panel width="200" height="200">  
    <mx:Button label="Hello world"/>  
  </mx:Panel>  
</mx:Application>
```


Hello World

```
<?xml version="1.0" encoding="utf-8" />
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200">
    <mx:Button label="Hello world"/>
  </mx:Panel>
</mx:Application>
```



Espace de
nommage

Hello World

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200">
    <mx:Button label="Hello world"/>
  </mx:Panel>
</mx:Application>
```

mx:Application

mx:Panel

mx:Button

Etudions un exemple

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200">
    <mx:TextInput id="input"/>
    <mx:Label text="Texte : {input.text}"/>
    <mx:Button label="Reset" click="{input.text=' '}'"/>
  </mx:Panel>
</mx:Application>
```



Etudions un exemple

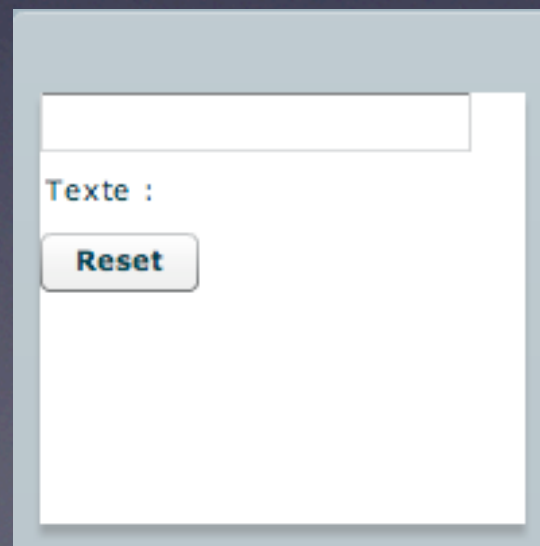
Composant
MXML

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200">
    <mx:TextInput id="input"/>
    <mx:Label text="Texte : {input.text}"/>
    <mx:Button label="Reset" click="{input.text=' '}'"/>
  </mx:Panel>
</mx:Application>
```



Etudions un exemple

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200" id="panel">
    <mx:TextInput id="input"/>
    <mx:Label text="Texte : {input.text}"/>
    <mx:Button label="Reset" click="{input.text=' '}'"/>
  </mx:Panel>
</mx:Application>
```



Etudions un exemple

```
<?xml version="1.0" encoding="utf-8"?>  
<mx:Application xmlns:mx="http://www.adobe.com/mxml">  
  <mx:Panel width="200" height="200">  
    <mx:TextInput id="input"/>  
    <mx:Label text="Texte : {input.text}"/>  
    <mx:Button label="Reset" click="{input.text=' '}'"/>  
  </mx:Panel>  
</mx:Application>
```

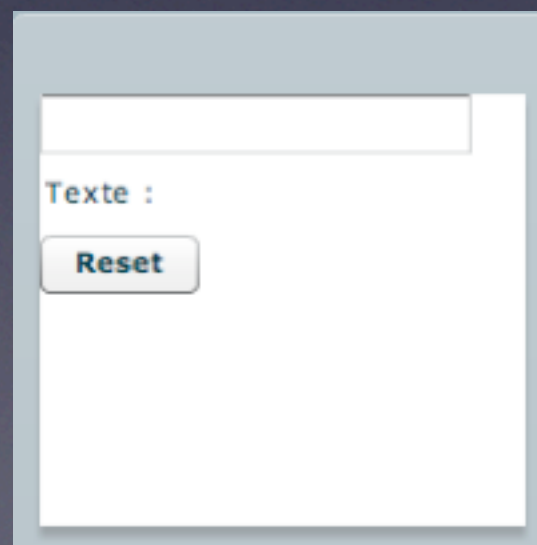
Propriété



Etudions un exemple

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/08/mxml">
  <mx:Panel width="200" height="200">
    <mx:TextInput id="input"/>
    <mx:Label text="Texte : {input.text}"/>
    <mx:Button label="Reset" click="{input.text=' '}'"/>
  </mx:Panel>
</mx:Application>
```

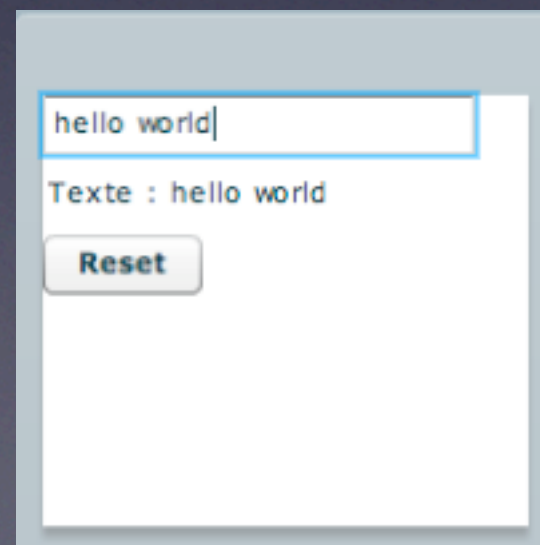
Binding



Etudions un exemple

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/08/mxml">
  <mx:Panel width="200" height="200">
    <mx:TextInput id="input"/>
    <mx:Label text="Texte : {input.text}"/>
    <mx:Button label="Reset" click="{input.text=' '}'"/>
  </mx:Panel>
</mx:Application>
```

Binding



Etudions un exemple

```
<?xml version="1.0" encoding="utf-8"?>
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml">
  <mx:Panel width="200" height="200">
    <mx:TextInput id="input"/>
    <mx:Label text="Texte : {input.text}"/>
    <mx:Button label="Reset" click="{input.text=' ' }"/>
  </mx:Panel>
</mx:Application>
```

Événement



Génère de l'AS

MXML Original	Code généré
<pre><?xml version="1.0" encoding="utf-8"?> <mx:Application xmlns:mx="http:// www.adobe.com/2006/mxml"> <mx:Panel width="200" height="200"> <mx:Button label="Hello world"/> </mx:Panel> </mx:Application></pre>	<p>Option de compilation : -keep</p> <pre>private var _documentDescriptor_ : mx.core.UIComponentDescriptor = new mx.core.UIComponentDescriptor({ type: mx.core.Application , propertiesFactory: function():Object { return { childDescriptors: [new mx.core.UIComponentDescriptor({ type: mx.containers.Panel , propertiesFactory: function():Object { return { width: 200, height: 200, childDescriptors: [new mx.core.UIComponentDescriptor({ type: mx.controls.Button , propertiesFactory: function():Object { return { label: "Hello world" }}] }}] }}] }} })</pre>

Compilation



MXML vers ActionScript 3

CSS vers ActionScript 3

ActionScript 3 vers Byte code

Assets vers SWF

Byte code vers SWF

Exécution du SWF sur Flash Player



Les Événements


```
<mx:Button label="show" click="{Alert.show('event')}" />
```



```
<mx:Script>
  <![CDATA[
    import mx.controls.Alert;

    private function showAlert(event:Event):void
    {
      Alert.show('event')
    }
  ]]>
</mx:Script>

<mx:Button label="show" click="showAlert(event)"/>
```



```
<mx:Script>
  <![CDATA[
    import mx.controls.Alert;

    private function showAlert(event:Event):void
    {
      Alert.show('event')
    }
  ]]>
</mx:Script>

<mx:creationComplete>
  <![CDATA[
    bouton.addEventListener(MouseEvent.CLICK, showAlert);
  ]]>
</mx:creationComplete>

<mx:Button id="bouton" label="show"/>
```




Les Bindings


```
<mx:TextInput id="input"/>  
<mx:Label text="Texte : {input.text}"/>
```



```
<mx:Script>  
  <![CDATA[  
    [Bindable]  
    private var bind:String;  
  ]]>  
</mx:Script>
```

```
<mx:TextInput id="input" change="{bind=input.text}"/>  
<mx:Label text="Texte : {bind}"/>
```



```
<mx:creationComplete>  
  <![CDATA[  
    BindingUtils.bindProperty(lab,"text",input,"text");  
  ]]>  
</mx:creationComplete>  
  
<mx:TextInput id="input"/>  
<mx:Label id="lab"/>
```


CHANGE

Les Etats

Exemple

```
<mx:states>  
  <mx:State name="monEtat">  
    <mx:SetProperty target="{views}"  
      name="selectedIndex" value="2" />  
    <mx:RemoveChild target="{backButton}" />  
  </mx:State>  
</mx:states>
```

Chaque composant possède une variable **currentState** qui contient l'état courant. Il suffit de le modifier pour le changer d'état. L'état par défaut a pour valeur "".

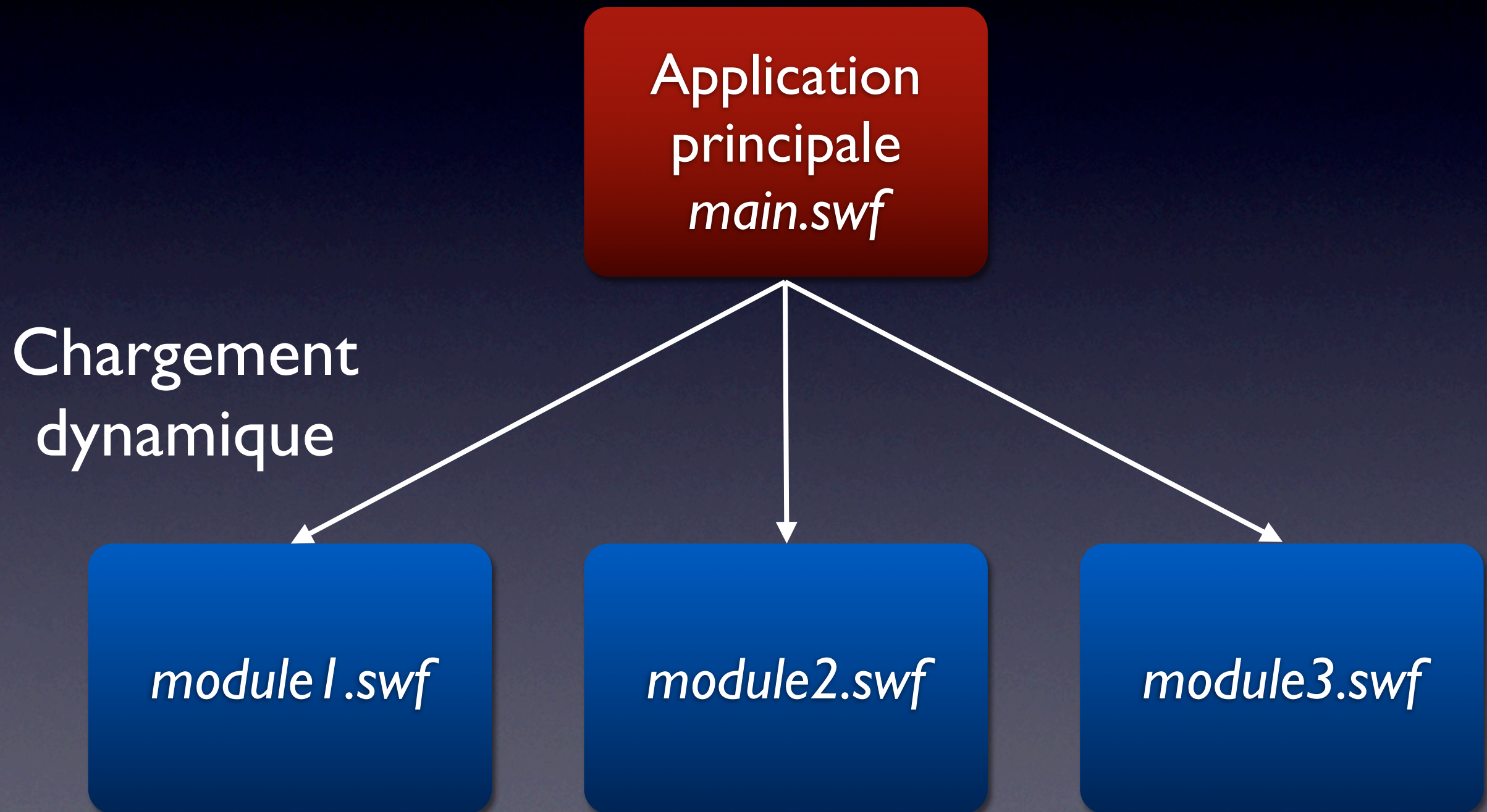
Actions possibles
setProperty
addChild
removeChild
setEventHandler
setStyle

Culture

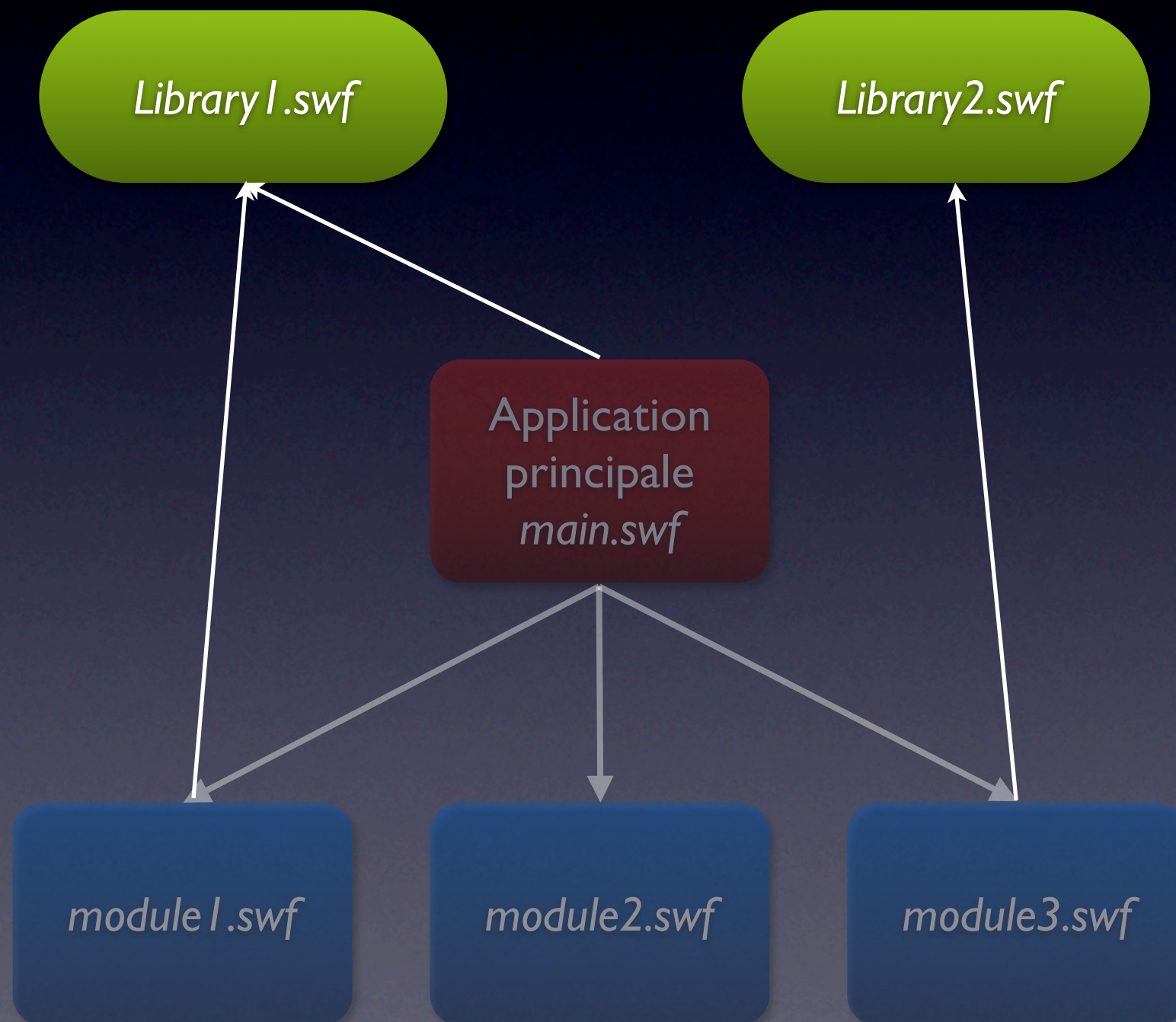
Fx

Modules et RSL

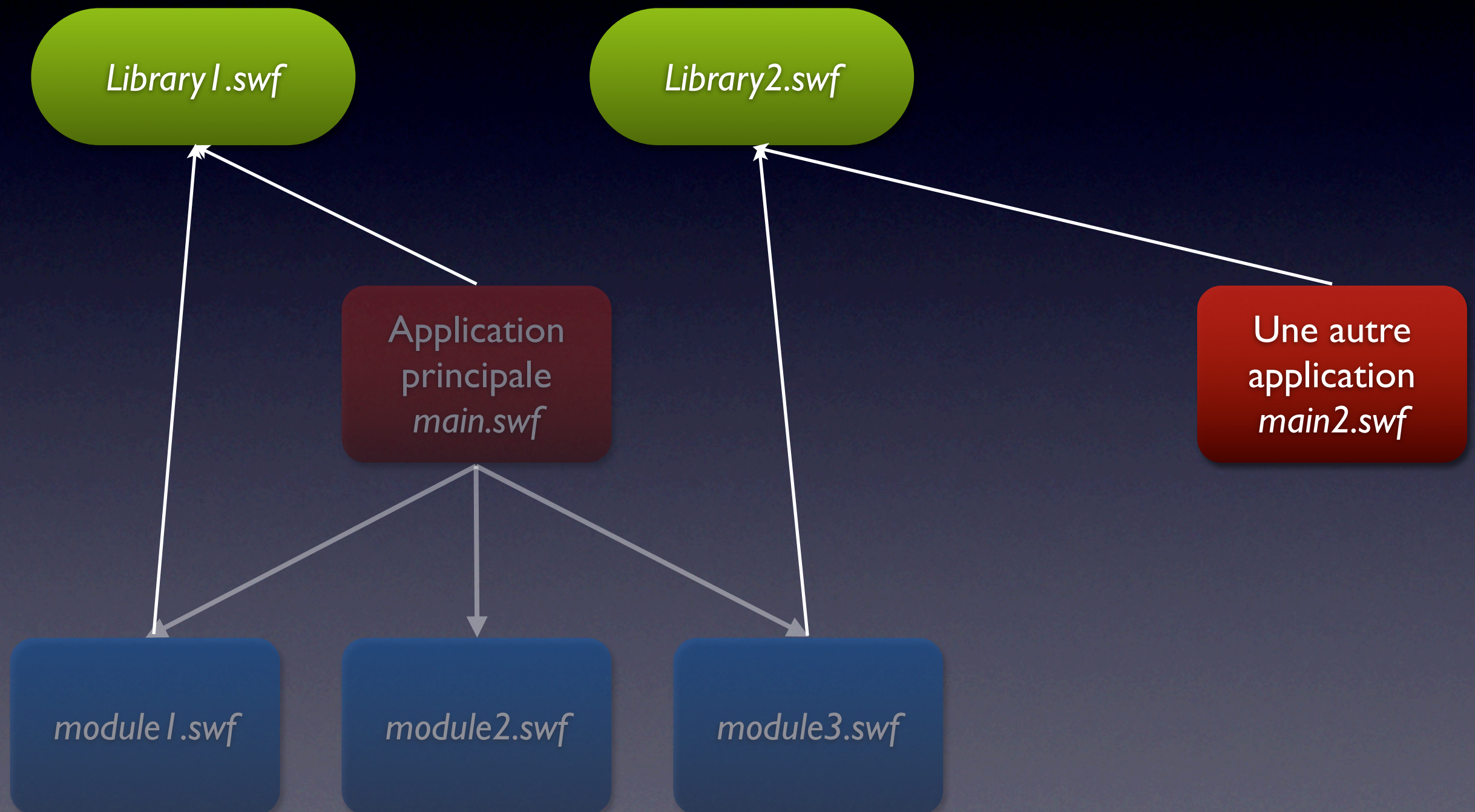
Modules



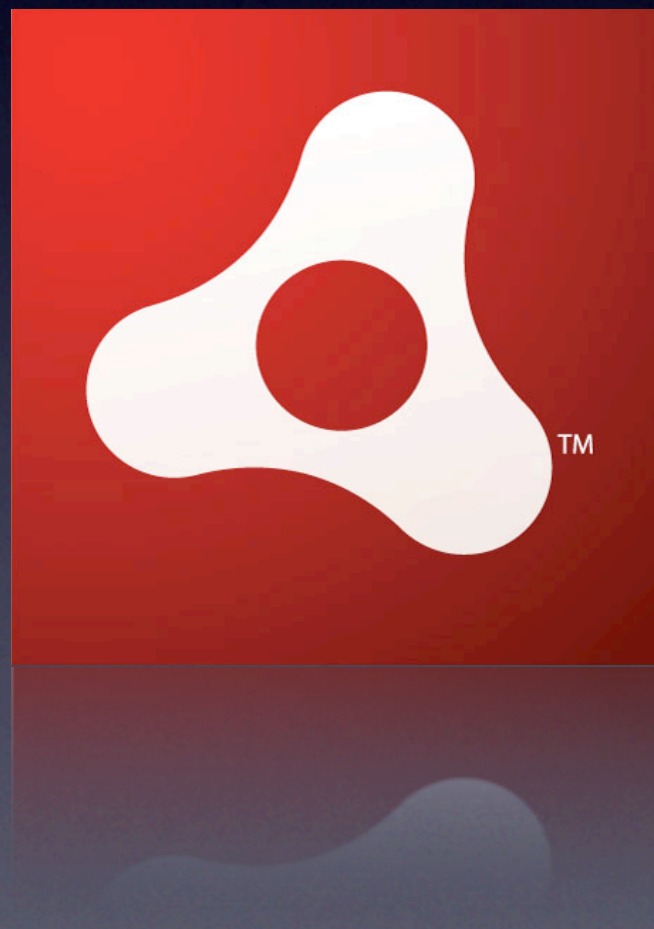
Runtime Shared Library



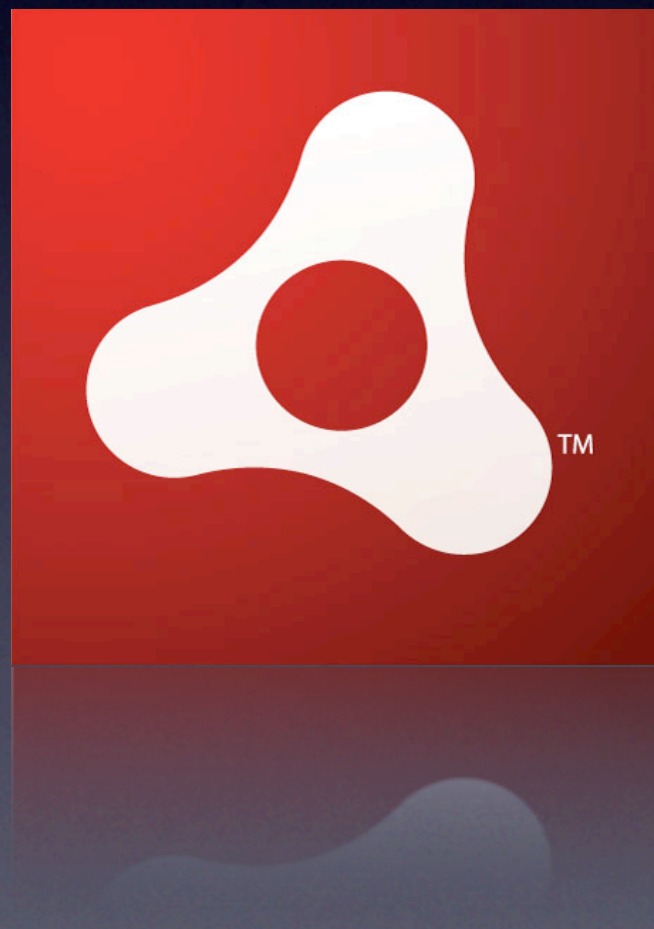
Runtime Shared Library



AIR



RIA



Quoi de plus dans AIR?

Accès au système
de fichier

Processus en
tâche de fond

API pour les
mises à jour

Contrôle du
chrome

PDF

Stockage local

Système de notification


SQLite

UI natif
(*fenêtres et menus*)

WebKit

Monitoring de la
connexion réseau

Installation d'une application AIR



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The RIA Buzz



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For Students


- [Get Flex Builder FREE!](#)

Useful Links

- [Adobe Flex Product Page](#)

Tour de Flex

Tour de Flex is a desktop application for exploring Flex capabilities and resources, including the core Flex components, Adobe AIR and data integration, as well as a variety of third-party components, effects, skins, and more.



[Install Now](#)

Download is approx 50MB

[Manual Install](#) - download the AIR file directory from [here](#)


Tour de Flex runs on Adobe AIR on Windows, Mac OS and Linux

[User Guide \(PDF\)](#)

Tour de Flex has three primary purposes:

- Provide non-Flex developers with a good overview of what is possible in Flex in a "look and see" environment
- Provide Flex developers with an illustrated reference tool
- Provide commercial and non-commercial Flex developers a place to showcase their work

Tour de Flex includes over 200 runnable samples, each with source code, links to documentation, and other details. Topics include the Flex Core Components, Flex Data Access, AIR Desktop Capabilities, Cloud APIs, Data Visualization, Mapping, and a growing collection of custom components, effects, skins, etc.

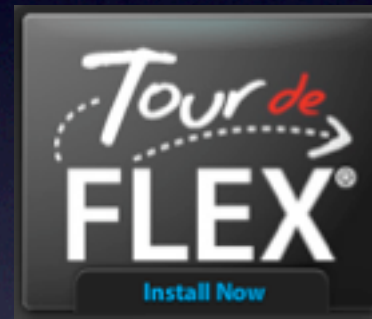


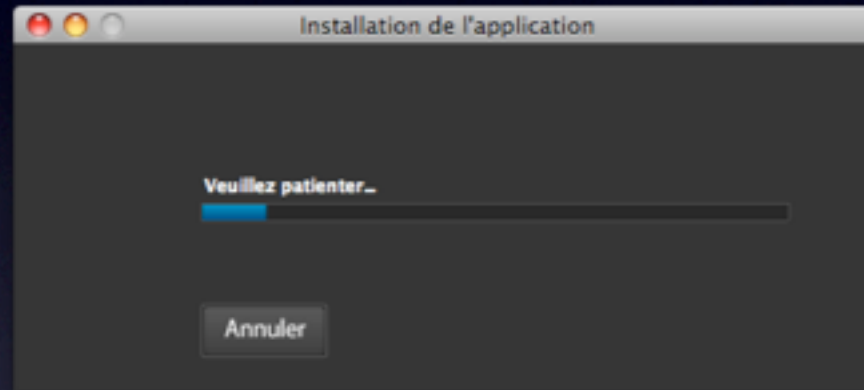
Search

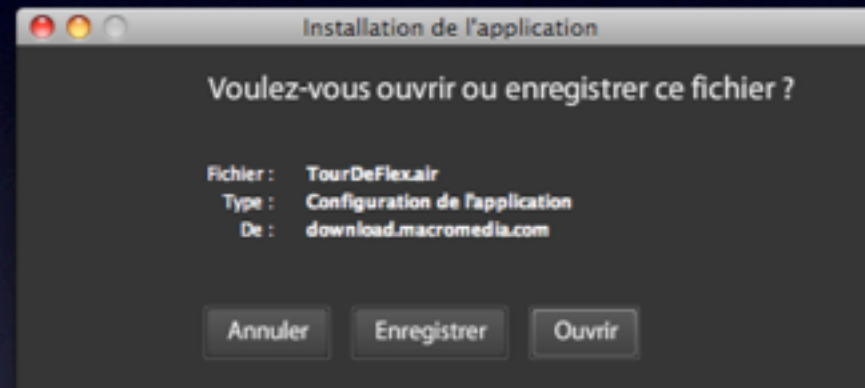
[Search](#)

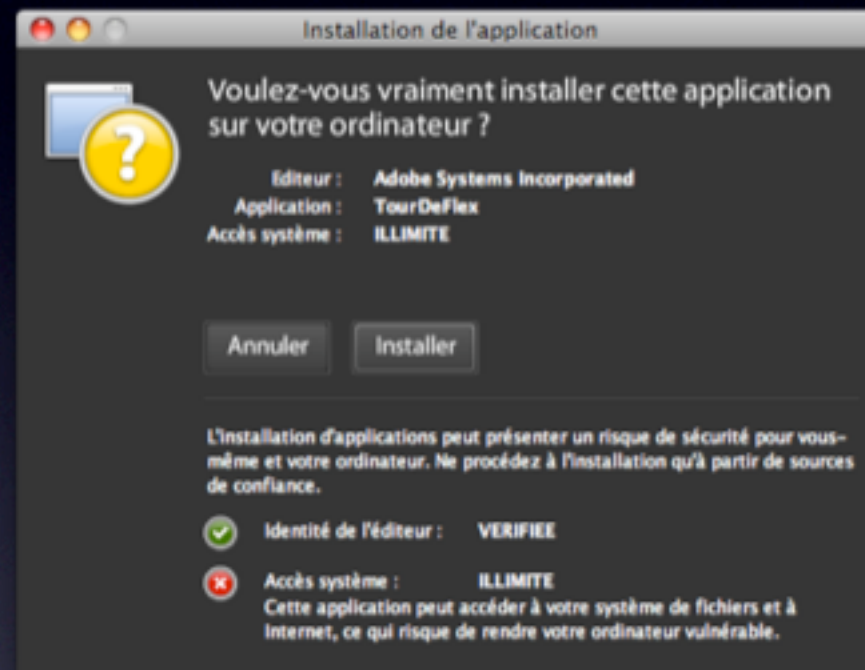
Upcoming Events

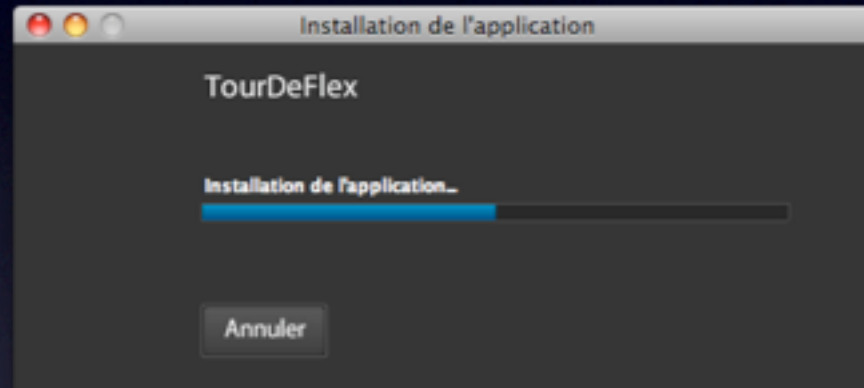
- [Adobe Flex Jumpstart Class](#)
Mon, 12/08/2008 09:30 - 16:30
- [Flex 3 - Developing Rich Client Applications](#)
Mon, 12/08/2008 09:00 - Wed, 12/10/2008 16:00
- [flexughh-Meeting \(08.12.08\): Florian Salihovic - "Unit Testing mit FlexUnit"](#)
Mon, 12/08/2008 19:30 - 21:30
- [Flex 3 - Extending and Styling Components](#)
Tue, 12/09/2008 09:00 - Wed, 12/10/2008 16:00
- [Flex Camp Chile 2008](#)
Wed, 12/10/2008 09:00 - 10:00
- [Flex 3 and LCDS - Integrating with Data and Messaging](#)
Thu, 12/11/2008 09:00 - Fri, 12/12/2008 16:00
- [Flex 3 - Building Charting & Dashboard Applications](#)













Adobe Flash Platform and web technologies

TOOLS TO DESIGN AND DEVELOP



After Effects



Illustrator



Fireworks



Photoshop



Flash CS4 Professional

Interactive

Animation

Visual Layout



Flash Catalyst

Prototyping

Design to Interactive



Flex Builder

Eclipse IDE

Code Profiling

Debugging

FXG

FRAMEWORK



Flex

Components

MXML

Declarative UI

ActionScript

CLIENTS

Browsers

JavaScript,
HTML, CSS, etc

DOM APIs



Flash Player

ActionScript

E4X, Binary Data

H.264 Video
AAC Audio

Real-time data

PixelBender

3D Effects



AIR

JavaScript,
HTML, CSS, etc.

OS /Desktop
Integration

ActionScript

Local Storage

PDF Integration

Persistent
Application

OPERATING SYSTEMS

Mac, Windows, Linux, Symbian, Windows Mobile, Wii, PlayStation, etc.

NETWORK

AMF, XML, JSON, SOAP, RSS, ATOM, etc.

HTTP/S, Sockets, RTMP, etc.

FLASH SERVERS



Flash Media
Server Family

On-Demand & Live
Streaming

RealTime
Interactivity

Protected Streams



BlazeDS

Enterprise
Services

Remoting / AMF

Data Management

ADOBE SERVERS



ColdFusion

Messaging

Remoting

Data Management



LiveCycle ES

Data Capture
and Output

Process
Automation

Security

THIRD PARTY SERVERS



Java



etc.

BEA
Business Objects
Intuit
SAP

salesforce.com
WebSphere
Zend

Java
.NET

Perl
PHP

RESOURCE TIERS

Databases

Directories

ECM
Repository

Message
Queues

Legacy
Systems



Retour sur expérience

- Api parfois minimalistes
- Architecture (MVC + structure par composants)
- IDE incomplet
- Communauté active

- Scroll sous Mac OS
- Temps de compilation parfois long
- Machine virtuelle à optimiser
- Développement rapide du UI



Ressources

Liens à connaître

- **Flex Language Reference** (<http://livedocs.adobe.com/flex/3/langref/>)
- **Flex ressources** (<http://www.adobe.com/support/documentation/en/flex/>)
- **Flex in a week** (<http://www.adobe.com/devnet/flex/videotraining/>)
Vidéos et tutoriels pour apprendre Flex en 1 semaine
- **Flex.org** (<http://flex.org/>)
Agrégation d'actualités provenant de la sphère Flex/Air
- **TourDeFlex** (<http://flex.org/tour>)
RDA en Air pour explorer des ressources et des composants Flex

Search » Filter

Data Visualization

- ILOG Ellixr
- Kap IT Lab
 - Diagrammer
 - Kiviat(Radar Chart)
 - TreeMap
 - Visualizer

Visualizer

Comments (1)

Download

Open in Browser

Expand

Hierarchical Balloon Radial Hierarchical Cyclic

Click on + to expand or Roll over a person to see its details

+ -

Visible levels :

Orientation

Top to Bottom

Link drawing type

Orth. polyline

powered by Kap IT

TDFVisualizer... CustomCount... Lang Ref Product guide Component H... About Kap IT ...

```

<?xml version="1.0" encoding="utf-8"?>
<TDF:TDFApplication
  xmlns:mx="http://www.adobe.com/2006/mxml"
  xmlns:component="fr.kapit.tourdeflex.component.*"
  xmlns:TDF="fr.kapit.tourdeflex.*"
  xmlns:visualizer="com.kapit.visualizer.*"
  layout="absolute"
  backgroundColor="#F7F7F7"
>

  <!--
    This application demonstrates how to use Visualizer component to display Hierarchical
  -->

  <mx:Style source="../../../TDFStyle/src/TDFStyle.css" />

  <mx:Script>
  
```

Visualizer is a data visualization Flex component.

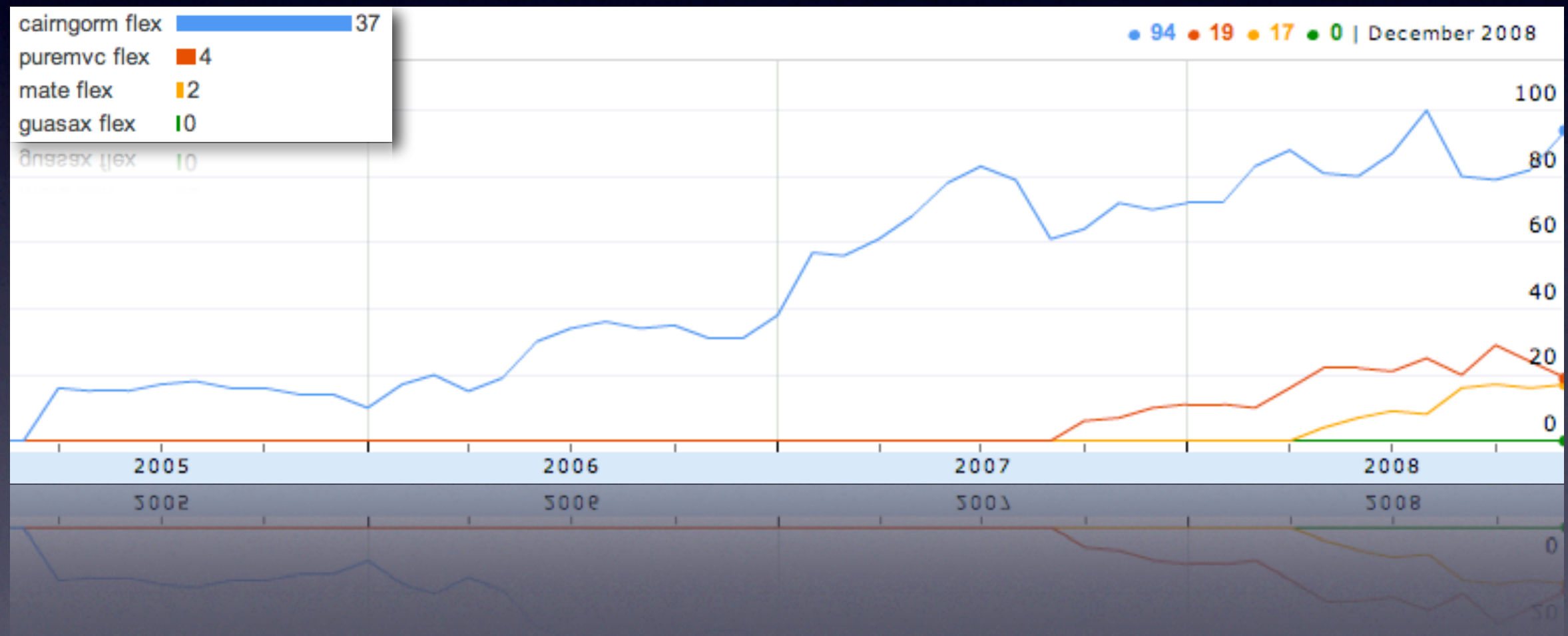
Author: Kap IT

Date Added: 2008-09-10

Frameworks

- **Cairngorm** (<http://opensource.adobe.com/wiki/display/cairngorm/>)
 - **PureMVC** (<http://puremvc.org/>)
 - **Mate** (<http://mate.asfusion.com/>)
 - ...
-
- **Architectures et Framework Flex / Air**
par Matthieu Segret
<http://techtalks.intellicore.net/2008/05/29/architectures-frameworks-flex/>

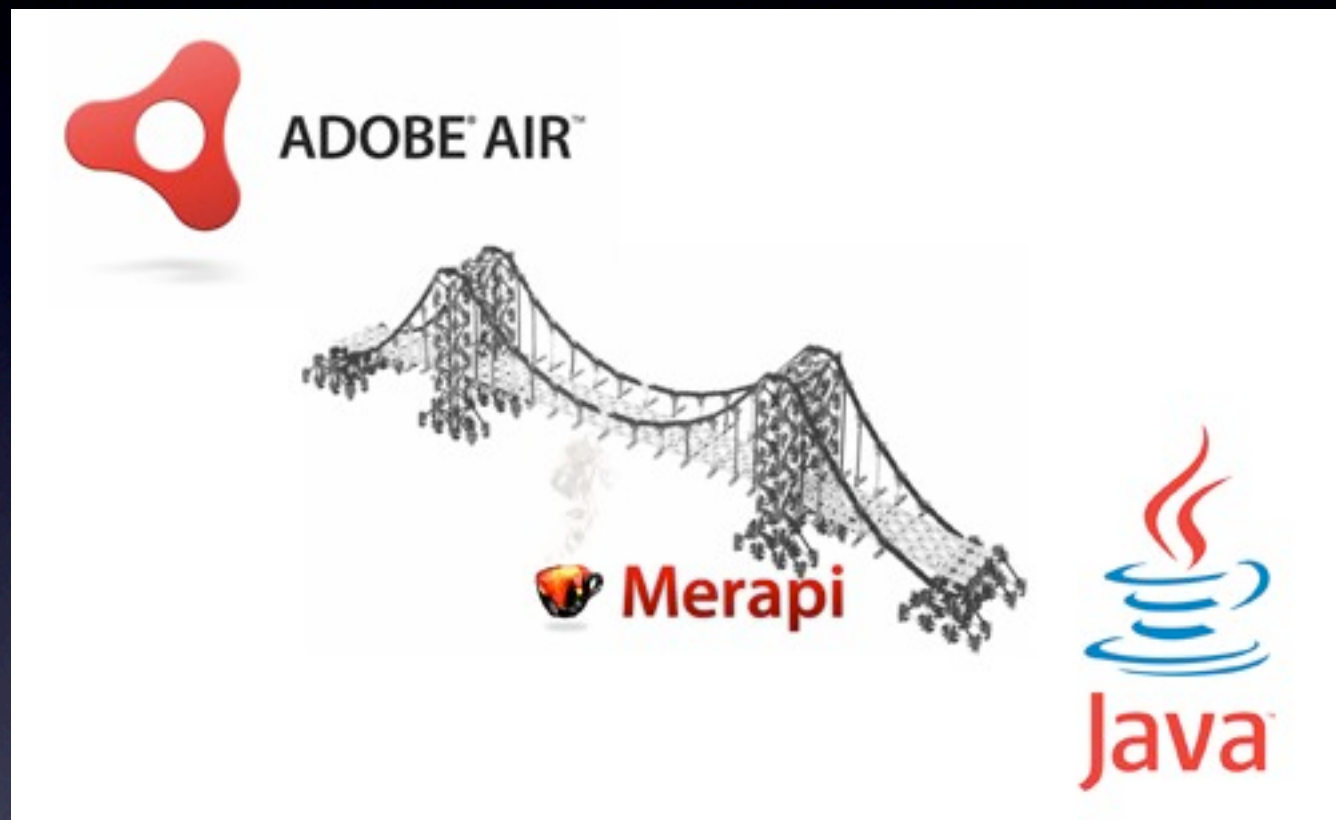
Frameworks



Bibliothèques

- **FlexUnit** (<http://code.google.com/p/as3flexunitlib/>)
Tests unitaires
- **Thunderbolt** (<http://code.google.com/p/flash-thunderbolt/>)
Logger extension
- **Flexlib** (<http://code.google.com/p/flexlib/>)
Composants graphiques
- **Degrafa** (<http://www.degrafa.org/>)
Framework graphique

Merapi



Communication par message entre AIR et JAVA



Sources

- **Rich Internet Applications (RIA): A Convergence of User Interface** - *Florian Moritz*
<http://www.flomedia.de/diploma/documents/DiplomaThesisFlorianMoritz.pdf>
- **Flash, Flex & AIR: A brief survey** - *Travis Isaacs*
<http://www.slideshare.net/tbisaacs/flash-flex-air-a-brief-survey>
- **Pratique d'ActionScript 3** - *Thibault Imbert*
<http://pratiqueactionscript3.bytearray.org>
- **AdvancED Flex 3** - *Shashank Tiwari & Elad Elrom*

Illustrations

- <http://www.flickr.com/photos/gamin/383003317/>
- <http://www.flickr.com/photos/katej/2326033102/>
- <http://www.flickr.com/photos/gustty/95378937/>
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